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**The Transport of Oxidant Beyond Urban
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Data, New England Study, 1975**

Washington State Univ, Pullman Air Resources Section

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This report provides a tabulation of data collected by Washington State University. It includes surface data from a field laboratory near Groton, Connecticut, plus vertical pollutant information obtained during daily aircraft sampling missions.

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SECTION 1

INTRODUCTION

A critical question facing EPA personnel in Region I is whether transportation control strategies in the New England area should be promulgated on a local basis (e.g. the immediate Boston vicinity) or on a larger regional scale (e.g. portions of New York, Connecticut and Massachusetts). To help answer this question, an EPA coordinated study was conducted in the northeastern United States during the summer months of 1975. Primary importance was placed on collection and interpretation of photochemical oxidant data. If it could be shown that a significant portion of the oxidant burden in a localized area was due to oxidant and/or oxidant precursors transported into those areas from some upwind point, it certainly would be most logical to devise regional control plans. On the other hand, if the evidence indicated that only minor amounts of oxidant were the result of transport processes, initiation of region-wide control strategies would not be warranted.

Primary objectives of the field program were to monitor ozone and ozone precursors throughout the New England region and determine to what extent the oxidant problem in the Boston area is attributable to transport. Specific areas of interest included (1) oxidant formation and transport within the Boston and New York City urban plumes, (2) oxidant behavior in relation to high pressure systems, (3) coastal seabreeze effect on oxidant levels, (4) relationships between ozone layers aloft and temperature inversions, and (5) ozone transport in the Connecticut River valley.

The field study which began on July 15 involved research teams from Washington State University (WSU), Battelle, EPA--Research Triangle Park, EPA--Las Vegas, and EPA--Region I. WSU's part in the program involved collection of air quality data at a ground station near Groton, Connecticut, and from aircraft flights over much of the southern New England region.

The purpose of this report is to provide a tabulation of the data collected by Washington State University during the six-week sampling period. Subsequent reports will discuss in detail various portions of the data presented herein.

SECTION 2

EXPERIMENTAL PROCEDURE

SITE DESCRIPTION AND PROGRAM DESIGN

To satisfy the sampling objectives of the program, a triangular network of monitoring base stations was set up in southern New England. This is shown on the map in Figure 1. Washington State University's base station was located on the southern Connecticut coast south of Groton. Battelle's base of operations was near Simsbury, Connecticut, and the two EPA groups were in the Boston vicinity. It was felt a triangular design such as this provided optimum coverage of the study area. WSU had access to air masses that originated in the New York City area and passed out over the Atlantic Ocean and Long Island Sound. Battelle could monitor air parcels coming into the region from the northwest while the EPA groups were positioned to provide upwind and downwind coverage of the Boston metropolitan area.

Our main sampling trailer was located near the tip of Avery Point south of Groton (Figure 1). We also collected bag samples for hydrocarbon analysis at a rural inland site northwest of Groton. This was near the Devil's Hopyard State Park about halfway between Groton and Hartford.

Aircraft flight paths were designed to provide maximum coverage of the southern New England region. During the first half of the study period when two airplanes were operating, WSU concentrated on the eastern portion of the region. As shown in Figure 2A, we flew north from Groton to the proximity of the Massachusetts border and then headed east toward Boston. The section of this first leg from Putnam to the turn-point overlapped with Battelle's flight path and thus allowed cross-checking of instruments in the two aircraft. The remainder of our route consisted of a counter-clockwise arc of 18 miles radius around Boston, followed by return to

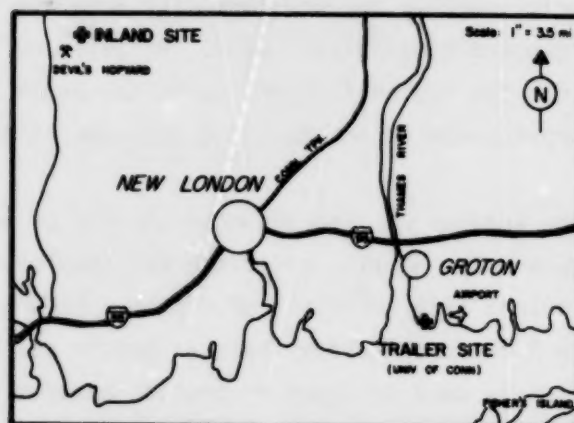
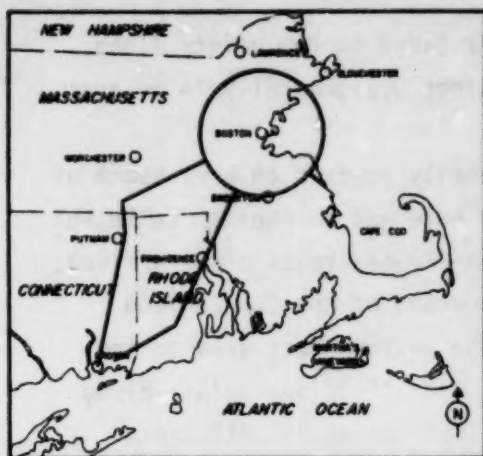


Figure 1. Maps of New England study area.



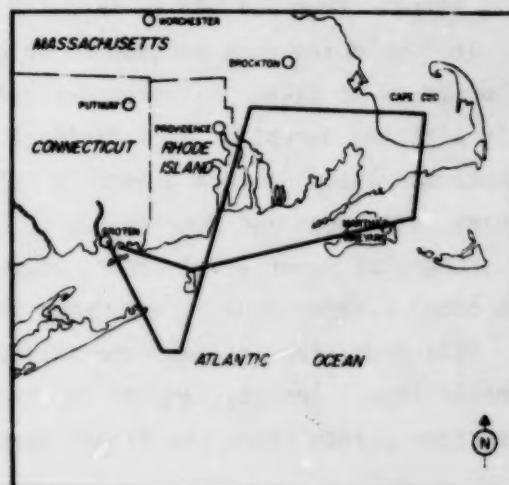
A



B



C



D

Figure 2. Flight paths used in New England study.

Groton via Providence. Vertical profiles were flown at two points along the flight path. The location of these soundings was generally in an area upwind and downwind of Boston.

When not flying the Boston loop, we generally covered an area south of Groton, as shown in Figure 1B. The objective here was to monitor pollutant behavior over water. In early August when the EPA-Las Vegas plane arrived, our primary routes covered the southwestern portion of the New England region during morning hours (Figure 2C) and the southeastern area during afternoons (Figure 2D). Spiral ascents were used at various points along these flight routes to monitor the vertical distribution of pollutants.

When over land, the flight paths just described were usually flown at 1500 ft MSL. Over the ocean and Long Island Sound, the plane commonly dropped down to 500 ft and, on occasion, to as low as 200 ft above the water. When weather permitted, morning and afternoon sampling flights were employed. The length of time in the air generally varied between 2 and 3 hours. From July 15 to August 21 we carried out a total of 52 flights.

In concluding this section on program design, Table 1 summarizes the measurements we made. All ground-level parameters were monitored continuously with the exception of individual light hydrocarbons. Samples for hydrocarbon analysis were generally collected over two-hour periods during morning, afternoon and evening hours. Not listed in the table is the measurement of upper-level winds; however, this information was obtained from pibal observations each morning and afternoon.

Data from aircraft instrumentation was continuously recorded on magnetic tape. The bag samples for hydrocarbon analysis were collected at various points along the flight path.

TABLE 1. GROUND AND AIRCRAFT MEASUREMENTS

<u>Ground-Level Measurements</u>	
Ozone	Wind Speed
Oxides of Nitrogen	Wind Direction
Total Hydrocarbon	Turbulence
Methane	Dew Point
Carbon Monoxide	Solar Radiation
Individual C ₂ -C ₆ HC	Temperature
Halocarbons	Vertical Temperature Discontinuity (Acoustic Radar)

TABLE 1. cont.

Aircraft Measurements

Ozone
Condensation Nuclei
Visual Range (Nephelometer)
Temperature
Relative Humidity
Navigational Parameters (VOR, DME, Altitude, etc.)
Bag/Can Samples (Hydrocarbons, Halocarbons, NO_x, etc.)

MOBILE LABORATORY

A 23-ft custom-built travel trailer served as our field headquarters. This laboratory contained 52 ft of bench and rack space for accommodation of our monitoring instruments, meteorological sensors and data acquisition and reduction system. Most of this equipment is permanently mounted in the trailer for easy transport from site to site. The laboratory can be set up with most instruments fully operational in one day. Constant temperature within the trailer is maintained by two large air conditioners mounted on the roof.

Outside air is brought into the trailer through a 4-in. stainless steel line. The top of the air inlet stack is about 20 ft above ground level. This sample line runs the full interior length of the trailer and serves as a manifold for supplying outside air to the continuously monitoring instruments. An air flow rate through the line of approximately 100 cfm is maintained by a squirrel-cage fan at the exhaust end.

Equipment is laid out within the trailer such that those instruments monitoring the most reactive gases (ozone and nitric oxide) are closest to the inlet end of the manifold.

GROUND INSTRUMENTATION

This section provides a brief description of the instruments used to make the ground measurements listed in Table 1.

Ozone Measurements - Meloy Model OA350 Ozone Analyzer. Operation of this instrument is based on the gas-phase chemiluminescent reaction between

ozone and ethylene. It provided dependable, trouble-free operation throughout the study period.

NO, NO₂ and NO_x Measurements - TECO Model 14D and Monitor Labs Model 3440.

Both of these instruments employ the chemiluminescent reaction between nitric oxide and ozone as the detection technique. After some start-up problems were corrected, the TECO 14D provided good service. The Monitor Labs instrument was used for the first week when the 14D was undergoing repair.

Methane, Carbon Monoxide and Total Hydrocarbon Measurements - Beckman Model 6800 Air Quality Gas Chromatograph. This automated gas chromatograph employs a flame ionization detector for hydrocarbon analysis. Carbon monoxide is reduced to methane prior to entering the detector. With the exception of the last week of the study period, this instrument provided trouble-free operation.

Halocarbon Measurements - Hewlett Packard Model 5700A Gas Chromatograph. This instrument was equipped with a constant-current ⁶³Ni electron capture detector. Separation of fluorocarbon-11, chloroform, carbon tetrachloride and 1,1,1-trichloroethane was achieved on a 10-ft x 1/8 in. stainless steel column containing 10% SF-96 Chromosorb W. The column was maintained at 55°C. With a carrier gas (95% argon-5% methane) flow of 20 ml/min, four analyses could be run each hour. This instrument was automated by attaching a 1-ml sample loop, a Carle microvalve (#5518), a Carle valve actuator (#4201) and a Carle valve-minder (#4101). A manual injection technique was used for aircraft-collected samples.

Individual Light Hydrocarbon Measurements - Perkin-Elmer Model 900 Gas Chromatograph. The standard dual-flame instrument was used with the addition of a subambient accessory. The normal carrier gas flow system was modified to include a freezeout trap for concentrating the organics in ambient air. The column used to separate light hydrocarbons was a packed capillary (20' x 1/16") containing Durapak n-octane/Porasil C. When operated with a carrier flow of ~10 ml/min He and temperature-programmed from -70 to 80° at 24°/min, this column provided excellent resolution of the C₂-C₅ hydrocarbon fraction. This hydrocarbon analysis method was not automated.

All the ground instruments, with the exception of the Perkin-Elmer 900 gas chromatograph, obtained air samples on a continuous basis from the trailer manifold described under MOBILE LABORATORY. Samples for light hydrocarbon analysis were taken from the trailer manifold, plastic bags or stainless steel cans. The latter two collection devices provided the means for collecting samples at remote ground sites and in the aircraft.

All bags used for ambient air collection were fabricated of Teflon Type A (2 mil.) and sealed with a bandsealer marketed by Packaging Aids Corporation. The sample bags varied from 5 to 30 liters capacity. Teflon Swagelok-type fittings capped with Teflon-faced silicone septa were used as sampling ports. These bags were cleaned by flushing with hydrocarbon-free air. Contamination-free Kohmyr all Teflon pumps were used to fill bags in the field.

Canisters were used in addition to Teflon bags in the aircraft. These canisters were constructed of stainless steel with all the inner surfaces polished using the "Summa" process. The cans were filled with air using a metal bellows pump and sealed by closing two bellows valves. By pressurizing these containers to 10 psig, about 5 liters of air could be obtained for sampling purposes. Use of these canisters provides several advantages over plastic bags. Foremost among these advantages is that samples collected for halocarbon analysis are not subject to contamination by fluorinated materials emitted from Tedlar and Teflon bag surfaces.

METEOROLOGICAL MEASUREMENTS

Instrumentation used to measure the various meteorological parameters included three separate systems:

- 1) Climet CI-60 Data System - This instrument package contains sensors for measuring wind speed, wind direction, dew point, temperature and solar radiation. Turbulence was also determined from wind speed and wind direction perturbations. Output from the various sensors is channeled into a translator which conditions the signals and provides an output voltage compatible with a multi-pen recorder or other data-logging device.
- 2) Aerovironment Model 300 Monostatic Radar - This acoustic sounder measures the turbulent fluctuation of atmospheric temperature on

electrosensitive chart paper. A continuous record of the intensity of echo return as a function of height and time is obtained. The instrument has a maximum vertical range of 1000 meters.

- 3) Warren-Knight Model 84 Double Center Theodolite - Pilot balloons were used in conjunction with this theodolite for monitoring upper-level wind speed and direction. The balloons were of the 30g type and the standard rise rate table was used for computations.

AIRCRAFT MEASUREMENTS

The WSU Air Pollution Section's Cessna 336 Skymaster was used in this study. The 336 is a twin-engine, centerline thrust, high-wing aircraft. This airplane is capable of carrying the pilot, instrument operator, about 400 lbs. of instrumentation and enough fuel for 4 hours of survey work. Air for sampling instruments is brought in through a 4-in. diameter air scoop extending out approximately 10-in. from the fuselage. The air scoop and connecting 3-in. Plexiglas pipe inside the airplane cabin were designed to bring a large flow of sample air into the plane.

The plane was equipped with two 60-amp alternators. A Topaz solid-state inverter was used to convert the 28-VDC alternator output to 120 VAC for operating the air pollutant analyzers. This inverter provided about 1500 watts of usable power, which was more than sufficient for our needs.

The most commonly employed flight paths were described in an earlier section (see Fig. 2). When flying at 1500 ft MSL, airspeed generally was in the 120- to 140-mph range. Spiral ascents were carried out at 500 ft/min using half-standard rate turns (4 min). Standard 2-min turns were used to achieve a 500-ft/min descent rate.

Aircraft measurements were listed in Table 1. In succeeding paragraphs appropriate comments will be made concerning sampling instrumentation and techniques.

Ozone Measurements - A Bendix Model 8002 chemiluminescent analyzer was used to monitor ozone levels aloft. The response time (<10 sec) of this instrument is sufficiently rapid for meaningful aircraft measurements.

The only problem encountered with this analyzer was zero shifts accompanying cabin temperature changes. This problem could be alleviated somewhat by keeping the instrument running while the aircraft was on the ground; however, on very warm days it was necessary to include a spiral climb immediately after take-off to cool the interior of the aircraft.

Condensation Nuclei - An Environment One Rich 100 analyzer was used to measure very small particulate material in the atmosphere.

Visual Range - A MRI Integrating Nephelometer modified to increase its sensitivity was used to monitor light scattering and visual range. Air was not dried before entering the analyzer tube so changes in atmospheric humidity must be taken into account when examining these data.

Temperature, Relative Humidity and Navigational Parameters - A Metrodata M8 Airborne Meteorological and Navigational System was used to measure temperature, humidity, airspeed, altitude, bearings from two points (VOR) and distance from one point (DME). The temperature and humidity data are derived from sensors mounted under the aircraft wing. The airspeed and altitude systems use potentiometric transducers which are connected to the aircraft pitot-static system. VOR/DME data are acquired from navigational receivers installed in the aircraft. Mapping of flight paths was accomplished through the use of continuously collected VOR and DME signals plus a visual record kept by the pilot and instrument operator aboard the aircraft.

Bag/Can Samples for Hydrocarbon and Halocarbon Analysis - A manifold was constructed in the rear portion of the aircraft cabin that permitted rapid collection of bag samples for subsequent analysis in the ground laboratory. Five-liter bags could be filled in about 15 sec by ram air from the sample line, while bags of 30-liter capacity took about one minute to fill. Stainless steel canisters (see GROUND INSTRUMENTATION) were filled using a metal bellows pump.

DATA HANDLING PROCEDURES

All data collected in the aircraft and from most continuously monitoring ground instruments was recorded on 4-track magnetic tape using

Metrodata Model DL620A data logging systems. Data from the Beckman air quality gas chromatograph and the Hewlett Packard electron capture gas chromatograph was recorded on strip chart recorders. Thus, final reduction of THC, CO, CH₄, and halocarbon data was performed manually. Output from the Perkin-Elmer 900 gas chromatographs was channeled directly into a Hewlett Packard 3352 data system. This system provides individual hydrocarbon identification and quantitation information immediately following each gc run. Figure 3 summarizes the general data flow for all our field collected data.

We have developed the software necessary to allow our HP 2100 mini-computer (basic component of HP 3352 data system) to process 4-track magnetic tape data in the field. This permits field personnel to look at nearly a complete data set each day, which is very advantageous from the standpoint of recognizing instrumental malfunctions as well as short term pollutant relationships that warrant further study. The hardware involved in this operation includes a Metrodata Model TR625 tape reader, the Hewlett Packard 2100 computer, a Printec 100 high speed printer and a teletype for communicating with the system. The data processing operation involves converting raw voltages to scientific units, plus time averaging and tabulating for easy review.

The frequency of data recording in the field was dependent on the sampling technique. In the aircraft where considerable distance was covered in a short time, instrument and sensor responses were recorded five times every two seconds. Under normal flying conditions, this corresponds to a data point approximately every 70 ft. On the ground where pollutant and meteorological parameters were monitored at a fixed point, data recording times varied from one minute for ozone, oxides of nitrogen and the meteorological sensors to fifteen minutes for halocarbon measurements.

Field data collected on 4-track magnetic tape was transferred to 9-track tape in our home laboratory. This provides a permanent storage mechanism plus a data format that is compatible with Washington State University's IBM-360 computer. Often the IBM-360 is used for additional data analysis.

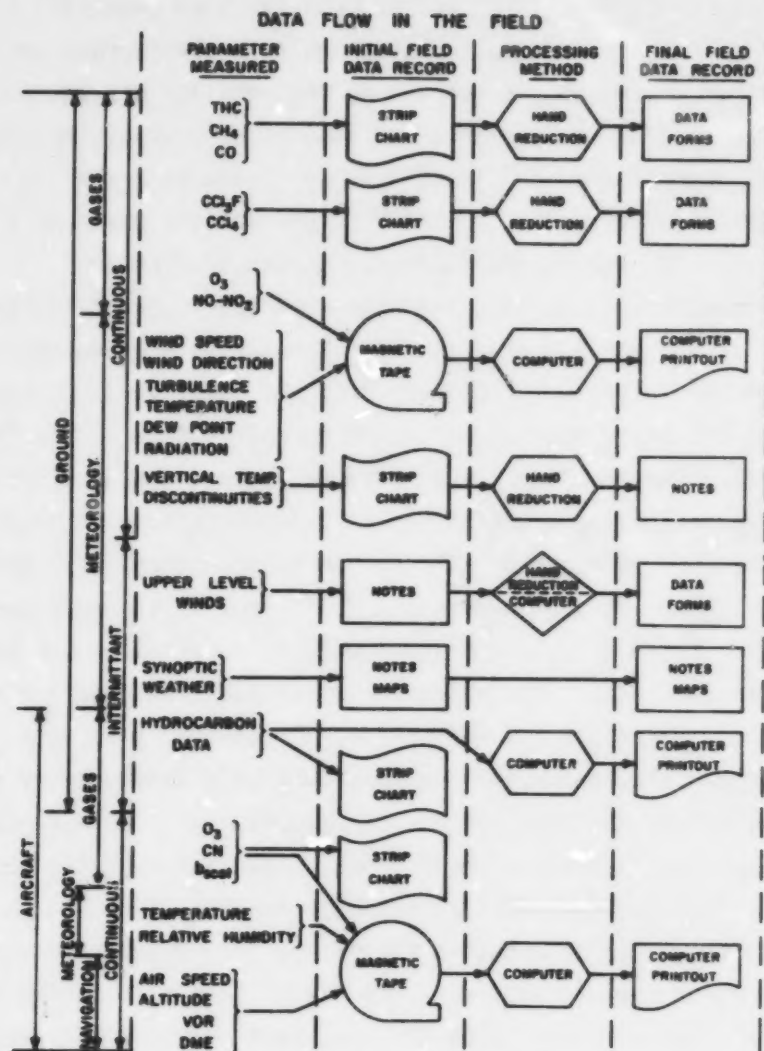


Figure 3. Data flow in field.

CALIBRATION PROCEDURES

A comprehensive data quality control program is an essential part of all field studies. Instrument calibration and zero checks must be documented so that any questions concerning data quality can be resolved. We kept daily records of these events and have used this information in arriving at the numbers provided in this report. Any data that appeared questionable was not included. A summary of precautions taken to insure data integrity for the various measurements is provided below.

Ozone - The ground based and airborne ozone analyzers were calibrated at least once a week using a McMillan Model 1000 ozone generator. This ozone source was specially designed to provide outputs in the 20 to 200 ppb range. Absolute calibration of the McMillan generator was based on the standard KI method plus spectral measurements using a Dasibi Model 1003-AH ultraviolet ozone photometer. In addition, EPA-Region I made three calibration comparisons with our instruments during the field study period. The results of these comparisons will be reported by EPA-Region I. From a qualitative standpoint it was obvious that our instrument readings agreed closely with EPA's. Cross-checks between our ground and aircraft ozone monitors were made nearly every day by flying low passes near the trailer laboratory. Table 2 lists the days and results of these cross comparisons. It is obvious from this table that differences were very small.

A zero check was made once a day on the ground ozone instrument. However, in the aircraft numerous checks were made during each flight. The airborne ozone data has been adjusted for zero drift whenever necessary.

Ozone analyzers of the type used in this study respond to changes in atmospheric pressure. Ground level pressure changes are minor and need not be of concern; however, when an instrument is carried aloft by aircraft, pressure factors must be considered. All of our aircraft collected ozone data has been corrected for altitude using equations developed from pressure chamber studies. This work has been reported in detail elsewhere (Monthly Technical

Report, April 1974; EPA Contract No. 68-02-1232, Dr. J. J. Bufalini, Project Officer).

Oxides of Nitrogen - Our calibration source for the Teco and Monitor Labs instruments was a tank containing 5.8 ppm NO. Linearity checks were made by diluting the 5.8 ppm standard in Teflon bags. A calibration check was performed once a week and zero checks daily.

Total Hydrocarbon, Methane and Carbon Monoxide - The Beckman 6800AQGC was calibrated using a tank containing 7.9 ppmC (THC), 2.19 ppm methane and 3.00 ppm carbon monoxide. Calibration checks were made about every other day. Toward the end of the study we received a standard from EPA-RTP that was reported to contain 0.44 ppm CO. We ran this standard and determined a concentration of 0.47 ppm, which is certainly in good agreement.

Fluorocarbon-11 and Carbon Tetrachloride - The electron capture gas chromatograph was calibrated by making up standards in ambient air. At the present time we feel this is the best method since the moisture and oxygen content of the standard will be nearly the same as in samples collected during routine analysis periods. The calibration was based on a Freon-11 standard that had been certified by mass spectrometry. At the beginning of the field study, measured volumes of the 11 ppm standard were added to a 45 l carboy filled with ambient air. From this a peak height versus concentration curve was obtained for the concentration region of interest (100-400 ppt). During this initial calibration period a stainless steel canister was filled with ambient air and the fluorocarbon-11 concentration was determined based on the calibration described above. Samples from this canister were run daily throughout the study period in order to monitor stability of the electron capture detector. Carbon tetrachloride calibration was carried out in a similar manner.

Individual Light Hydrocarbons - Identification of the light hydrocarbons was based on retention time comparisons. Resolution of light hydrocarbons on the Durapak n-Octane/Porasil C column was excellent and retention times were extremely reproducible. Thus, little difficulty existed in making unambiguous peak identifications. Calibration of the Perkin-Elmer gas chromatographs was achieved by measuring instrument

response of known concentrations of hexane in air. Three different hexane sources were used to prepare standards in the ppb range. In the field, an internal standard (neo-Hexane, .209 ppm) was included in each air analysis in order to insure calibration reliability.

Meteorological Parameters - Calibration curves supplied by the manufacturer were used to convert the Climet CI-60 sensor output signals to the appropriate temperature, wind speed, etc. readings. While in the field, sensor signals were checked routinely to insure correct operation.

Particulate Measurements - The condensation nuclei counter and nephelometer were calibrated in the home laboratory prior to going into the field. No calibration checks were made in the field since their primary function was not to provide absolute numbers but rather to determine gross horizontal and vertical CN and/or light scattering inhomogeneities within an air mass. We were concerned only with relative differences.

TABLE 2 . LOW PASS COMPARISON OF GROUND AND AIRCRAFT OZONE INSTRUMENTS

Date (Flt #)	O ₃ Concentration (ppb)		Date (Flt #)	O ₃ Concentration (ppb)	
	AIR	GND		AIR	GND
7/15 (1)	19	20	7/26 (17)	49	50
7/18 (2)	151	155	7/27 (19)	60	65
7/19 (4)	58	53	7/28 (20)	69	70
7/19 (5)	54	55	7/30 (24)	51	54
7/20 (6)	43	39	8/5 (28)	107	105
7/20 (7)	23	28	8/6 (29)	66	62
7/21 (8)	84	92	8/9 (32)	90	96
7/21 (9)	114	119	8/10 (33)	98	113
7/22 (10)	43	44	8/11 (35)	65	66
7/22 (11)	111	113	8/14 (40)	77	73
7/23 (12)	53	59	8/19 (46)	60	56
7/23 (13)	99	100	8/19 (47)	81	76
7/24 (14)	84	86	8/20 (49)	63	59
7/24 (15)	69	63	8/20 (50)	44	47
7/26 (16)	33	35	8/21 (51)	52	50

SECTION 3

DATA SUMMARY

METEOROLOGY

This section contains a brief description of synoptic weather patterns and a daily summary of upper winds (500' to 5000') at Groton during July and August, 1975. All times in this section refer to Eastern Daily Time.

Surface meteorological observations made at the ground trailer in Groton are reported as hourly averages in the subsection entitled LIGHT HYDROCARBON DATA AT GROUND LEVEL. Included there are averages for wind speed, wind direction, turbulence, temperature, dew point and solar radiation.

Aircraft flights provided upper level temperature profiles for more days during the sampling period. These are plotted in the subsection AIRCRAFT FLIGHT DATA.

Synoptic Weather Summary for the New England Area; July 14-August 21, 1975

- Monday 7/14 - Weather maps showed a strong high pressure system centered approximately 500 miles to the east of Boston. Another less dominant high existed to the west of the region in Ohio. Between these two systems, a weak stationary front extended from Canada through western Pennsylvania and on into the mid-Atlantic states. General wind flow to 5000' in southern Connecticut was from the southwest.
- Tuesday 7/15 - The Atlantic high weakened slightly and moved more to the east. The weak instability line also moved eastward into eastern New York and down through central Pennsylvania. This disturbance contributed to early morning showers throughout much of the New England region. Wind flow below 5000' continued from the southwest.
- Wednesday 7/16 - The high to the west of the region began to merge with the larger Atlantic system. As a result, the instability line rapidly decayed. An upper level low over the midwest gained strength. Winds from the surface to 2000' were from the south with higher level winds more from the southwest.

- Thursday 7/17 - The upper level low over Indiana started retrenching. Consequently, the Atlantic high spread southwestward and weakened. Upper level wind flow was primarily from the west while surface flow was somewhat more from the southwest.
- Friday 7/18 - A ridge began to build over New England as the off-coast high continued to weaken and move to the east. A weak upper level subsidence set in. Wind flow below 5000' was from the southwest zone.
- Saturday 7/19 - A front moving down from Canada began to influence the region, causing the upper ridge to flatten. Wind speeds increase with flow more from the west.
- Sunday 7/20 - Instability built-up throughout the day. A small surface trough extended across the New England region. Surface to 2000' winds were from the southwest during morning hours, shifting more to southerly in the afternoon.
- Monday 7/21 - The instability line passed through Groton during early morning hours as evidenced by thunderstorms. By daytime, the skies had cleared. Surface winds were from the west while upper level winds were more from the northwest in the morning shifting to westerly by afternoon.
- Tuesday 7/22 - High pressure now entrenched in New England region. Surface winds were light from the west with 1500' winds from the northwest in morning, becoming more westerly in the afternoon. Seabreeze evident during afternoon hours (1-7 PM).
- Wednesday 7/23 - High pressure system continued to move eastward. A new cold front began moving down from Canada. A low pressure area centered in Minnesota also appeared on the weather maps. Wind flow to 2000' was from the west throughout the day.
- Thursday 7/24 - The high pressure system weakened and began to diffuse. The advancing cold front extended across northern New England. The low occluded with its center north of Lake Superior. The surface to 2000' winds were from the west-southwest. Haze built throughout the day at Groton.
- Friday 7/25 - The front in northern New England retreated to the north as a new cold front moved into New York and Pennsylvania from the west. The Groton area experienced rain showers during early morning hours. Surface to 2000' winds were from the southwest. A high over Iowa moved eastward.

- Saturday 7/26 - The easterly moving front passed Groton at approximately 2:00 AM. A high pressure system is now centered over northwestern Pennsylvania. Northwestern winds prevailed from the surface to 2000'.
- Sunday 7/27 - High pressure weakened as the system moved to the northeast. A new front approached Connecticut from the west. Tropical storm Blanche passed about 450 miles off the coast as it moved north. Winds to 2000' were from the southeast in the morning, becoming more southerly by evening.
- Monday 7/28 - The front to the west continued its rapid approach and by evening was close to Groton. Tropical storm Blanche approached Nova Scotia. Surface to 2000' winds were from the west-southwest.
- Tuesday 7/29 - Frontal passage occurred about 4:00 AM. The high pressure area following the front was centered over Pennsylvania. Surface to 4000' winds were from the west-northwest.
- Wednesday 7/30 - The high pressure system was centered over western New York. Subsidence occurred throughout the region. Surface to 2000' winds were from the west-northwest.
- Thursday 7/31 - High pressure existed over the entire east coast. Subsidence continued. Winds to 3000' were from the west-northwest.
- Friday 8/1 - High pressure remained with centers in southwest Pennsylvania and Wisconsin. Some weak frontal activity formed in Maine ahead of a slow moving east-west aligned front across central Canada. Winds were from the northwest below 3000'.
- Saturday 8/2 - High pressure weakened and moved southward as frontal activity increased. A low pressure system was located to the north in Canada. The weak frontal activity persisted off the Maine coast. Winds at lowest altitudes were from the north-northwest.
- Sunday 8/3 - The barometric pressure continued to fall as the high moved farther south. A weak front originating from the north passed through Groton at approximately 6:00 PM. Before the frontal passage, surface to 2000' winds were mainly weak and disorganized. After passage air flow was predominantly from the northeast.
- Monday 8/4 - Frontal activity weakened but existed over most of the eastern United States. A new high pressure system began moving southeastward out of Canada. Winds were easterly at the surface, swinging to the south with increasing altitude.

- Tuesday 8/5 - Some frontal activity remained in the Groton area. The high pressure system in Canada strengthened as it continued to move to the southeast. Surface flow was light and from the west with winds shifting to the north with altitude in the morning. Wind strength increased from the northwesterly direction in the afternoon.
- Wednesday 8/6 - Main frontal activity existed along coast through Rhode Island and Cape Cod. Advancing high now centered over Lake Superior. Surface to 2000' winds were light and from the northeast - becoming more northerly in the western part of the region.
- Thursday 8/7 - A weak low pressure center developed south of Nantucket. Light rain fell throughout the day. Eastward movement of high over Great Lakes slowed somewhat. Wind flow in the Groton area was from the northeast.
- Friday 8/8 - Nantucket low strengthened a little and moved to the north. An upper level low over New England added to the unsettled weather conditions. Winds to 3000' were generally from the north.
- Saturday 8/9 - Some instability still persisted over Cape Cod; however, most of the western part of New England was clear. The center of the advancing high pressure system was now over West Virginia. A quick moving frontal system associated with a low in central Canada moved to the east. Surface to 2000' winds were from the northwest.
- Sunday 8/10 - The high continued its southern movement. A front associated with the Canadian low extended in an east-west direction along the U.S.-Canada border. A surface trough existed along much of the east coast. Winds to 3000' were from the northwest.
- Monday 8/11 - The low pressure center moved eastward across Canada and weakened. The front remained stalled along the U.S.-Canada border. The trough along the east coast strengthened. Winds to 3000' were from the west-southwest.
- Tuesday 8/12 - The front to the north showed little movement. The trough moved eastward causing air flow from the west-northwest during afternoon hours.
- Wednesday 8/13 - The frontal system combined with a new low in central Canada and began to orient northeast-southwest through the central U.S. The main trough weakened but another minor trough set up in southern New England. Winds below 3000' varied considerably over the region but were generally from the western quadrants.

- Thursday 8/14 - The frontal system finally moved through the Groton area about 10:00 PM. A high pressure system located in Minnesota appeared to be moving northeastward. Winds to 3000' were from the west.
- Friday 8/15 - The frontal system that passed Groton on the 14th stalled in southern Pennsylvania. A weak high pressure system built off the coast of New England. In addition a weak trough developed over the region. Winds to 3000' were from the north-northwest in the morning followed by a shift to southwesterly in the afternoon.
- Saturday 8/16 - The front stalled in Pennsylvania began to weaken. The trough continued to build over New England. Winds to 3000' were from the southeast over most of the region.
- Sunday 8/17 - The front to the south decayed rapidly. A small low was centered about 200 miles east of New Jersey. Surface to 2000' winds were from the east while air flow in the 3000-6000' region was from the southwest.
- Monday 8/18 - A new frontal system approaching rapidly from the west passed through Groton during the late evening hours. Winds below 3000' were from the west.
- Tuesday 8/19 - High pressure began to build over the region as a new system moved southeastward out of Canada. Surface to 3000' winds were from the northwest.
- Wednesday 8/20 - High pressure continued to build with center of high now over Lake Superior. Winds at lowest altitudes remained from the northwest.
- Thursday 8/21 - High pressure was strongly entrenched over the region. Morning winds below 2000' were from the northwest. Air flow came from the southwest during afternoon hours.

TABLE 3. UPPER LEVEL WINDS AT GROTON DURING JULY AND AUGUST, 1975

DATE	7/14	7/15	7/15	7/16	7/17	7/18	7/19	7/19	7/20	7/21
TIME	1000	0900	1600	1500	1615	1530	1000	1805	1200	0935
ALTITUDE (FEET)										
500	178/26	207/24	220/20	223/12	270/17	225/13	215/24	214/32	230/18	269/13
1000	189/33	218/21	227/18	236/12	276/18	232/16	219/24	219/31	229/19	277/12
1500	193/34		238/17	244/12	281/17	231/15	225/25	229/28	225/19	301/13
2000	193/31		246/16	245/15	287/18	241/15	218/24	228/26	223/19	311/18
2500	193/28		247/20	250/16	287/20	253/18	213/27	230/28		316/24
3000			258/20	253/16	286/19	260/19	213/28	238/28		317/20
3500			265/19	261/15	290/16	268/18	213/29	245/25		
4000			263/18	263/16	295/15	271/16	212/30	247/25		
4500			256/15	270/20	313/13	274/18	228/31	245/24		
5000			249/17	271/21	320/15	267/18	211/33	241/31		

x/y x = direction in degrees; y = speed in mph

TABLE 3. Continued

DATE	7/21	7/22	7/22	7/23	7/23	7/24	7/24	7/26	7/27	7/27
TIME	1415	0910	1515	0930	1455	0930	1440	1040	0858	1510
ALTITUDE (FEET)										
500	250/22	335/16	242/22	270/13	230/15	240/18	208/23	330/17	062/05	190/04
1000	243/21	331/16	243/16	277/15	234/16	243/18	212/15	326/23	089/07	192/03
1500	246/19	320/17	254/10	280/14	244/16	247/17	215/20	328/24	111/07	109/01
2000	251/18	310/18	280/07	276/14	253/16	243/20	220/21	332/17	102/08	047/05
2500	261/20	277/12	300/10	263/14	260/20	237/25	230/25	335/19	095/08	028/06
3000	272/20	281/16	317/11	269/14	274/18	233/26	233/27	339/16	100/07	018/03
3500	281/19	286/20	336/11	281/13	278/19	230/28	234/27	352/12	101/07	090/03
4000	286/21	278/20	329/11	294/12	285/15	231/27	235/25	360/09	099/07	172/02
4500	288/20	260/18	322/10	320/17	290/18	233/29	235/26	300/08	103/07	185/05
5000	290/18	258/21	320/12	311/16	286/18	230/31	234/28	289/16	038/05	166/07

x/y x = direction in degrees; y = speed in mph

TABLE 3. Continued

DATE	7/28	7/28	7/29	7/29	7/30	7/30	7/31	7/31
TIME	0858	1450	0913	1515	0925	1515	0925	1520
ALTITUDE (FEET)								
500	224/25	214/18	330/14	302/09	310/05	249/21	288/10	250/23
1000	229/24	218/18	325/19	302/09	298/07	248/18	291/12	257/19
1500	239/21	230/19	320/19	299/10	275/10	251/16	304/10	271/13
2000	245/31	244/19	316/18	297/13	256/11	265/13	326/14	287/12
2500	248/38	260/16	312/17	298/14	265/10	286/11	330/16	295/14
3000		265/16	296/15	299/13	295/06	292/10	312/14	292/16
3500		276/17	284/13	306/11	309/03	296/10	303/15	294/15
4000		276/18	274/13	310/13	323/03	313/09	264/20	299/16
4500		277/20	271/14	308/13	320/05	340/09	295/13	301/17
5000			271/16	299/16	321/05	020/10	303/14	295/19

x/y x = direction in degrees; y = speed in mph

TABLE 3. Continued

DATE	8/3	8/3	8/5	8/5	8/6	8/6	8/8	8/8	8/9	8/9
TIME	0900	1450	1000	1455	0930	1502	0920	1450	0930	1510
ALTITUDE (FEET)										
500	345/08	233/10	343/04	243/14	031/15	084/13	330/15	341/16	334/11	251/21
1000	355/13	256/05	342/07	256/06	052/12	061/08	331/19	358/24	346/15	275/10
1500	348/11	306/06	357/11	321/06	066/20	038/10	334/21	016/22	346/19	314/07
2000	346/07	310/06	357/13	329/06	099/18		022/21	029/21	342/19	328/08
2500	349/05	315/06	351/12	340/11	105/10		016/10	028/19	340/20	325/11
3000	337/06	319/07	355/12	351/13	131/04		001/10	028/21	338/19	330/11
3500	320/06	326/07	350/09	360/13	085/04				326/18	336/12
4000	295/07	326/08	342/12	354/13	051/03				311/21	005/12
4500	288/08	305/10	350/11	356/13	355/02				310/23	352/16
5000		299/09	353/12	351/14	021/03				318/21	344/19

x/y x = direction in degrees; y = speed in mph

TABLE 3. Continued

DATE	8/10	8/10	8/10	8/10	8/10	8/11	8/11	8/12	8/12	8/13	8/13	8/14
TIME	0915	1210	1525	0915	1505	0920	1450	0920	1505	0915	0915	0915
ALTITUDE (FEET)												
500	285/18	257/18	253/23	308/10	231/15	345/10	275/09	058/05	209/10	270/18		
1000	292/22	266/12	261/21	319/14	230/14	353/15	307/09	065/07	233/10	281/18		
1500	293/24	286/11	278/18	326/15	232/13	358/15	319/10	061/04	246/13	294/17		
2000	300/21	308/11	298/15	320/15	234/13	348/16	313/14	020/03	247/12	290/18		
2500	320/13	326/09	300/15	301/13	239/13	343/15	309/14	330/02	247/10	278/23		
3000	350/14	308/08	310/14	298/13	231/13	333/15	311/15	307/03	246/10	262/26		
3500	350/12	295/08	316/18	297/16	270/10	325/11	312/16	323/05	250/10	264/27		
4000	340/09	296/09	308/18	314/21	285/11	325/11	311/16	350/06	256/10	273/30		
4500	305/10	297/12	301/18	309/22	284/13	325/13	318/16	352/05	256/10			
5000	290/14	315/14	309/20	295/22		329/14	320/17	350/03	256/11			

x/y x = direction in degrees; y = speed in mph

TABLE 3. Continued

DATE	8/14	8/15	8/15	8/18	8/18	8/19	8/19	8/20	8/20	8/21
TIME	1430	0905	1500	1010	1450	0855	1645	0915	1525	0930
ALTITUDE (FEET)										
500	248/22	012/16	213/10	260/09	246/20	331/11	256/19	358/15	292/16	330/01
1000	252/18	014/17	230/09	297/09	251/16	340/12	265/17	357/16	294/12	248/07
1500	265/13	355/13	245/07	310/14	265/14	335/11	275/14	353/15	300/15	250/10
2000	273/12	346/08	260/05	314/15	280/12	325/12		350/15	301/18	253/09
2500	280/13	339/06	280/05	295/16	289/11	321/12		350/16	301/20	256/09
3000	280/15	340/06	286/05	286/18	295/11	318/11		349/15	302/22	264/08
3500	276/17	343/06	320/05	278/20	297/12	315/11		345/13	302/22	269/08
4000	296/17	348/07	318/06	281/21	300/14	308/11		338/09	302/21	272/08
4500	293/18	347/06	318/08	289/19	296/14	325/09		328/10	303/19	270/09
5000	292/19	325/06	319/09	296/16	291/15	319/09		320/11	305/18	264/10

x/y x = direction in degrees; y = speed in mph

CONTINUOUSLY COLLECTED GROUND DATA

Data in this section is tabulated on a daily basis. For each day of the sampling period, average hourly concentrations of ozone, oxides of nitrogen, methane, non-methane total hydrocarbon, carbon monoxide, fluorocarbon-11 and carbon tetrachloride are reported. In addition, meteorological parameters including wind speed, wind direction, turbulence, solar radiation, temperature and dew point are reported in the daily summaries.

Hourly averages refer to the period from 30 minutes before the hour to 30 minutes after the hour. Times correspond to Eastern Daylight Time.

TABLE 4. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 15, 1975

Time hr	GAS DATA							MET. DATA						
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	☉ deg	RAD mLy	TMP °F	DP °F
0100	15	--	--	<.1	.2	1.4	150	128	5	180	8	0	70	66
0200	14	--	--	<.1	.2	1.4	150	128	8	190	9	0	69	66
0300	19	--	--	<.1	.2	1.4	150	128	6	190	8	0	69	66
0400	18	--	--	<.1	.2	1.4	150	128	7	175	7	0	68	65
0500	17	--	--	<.1	.2	1.4	145	128	6	190	7	0	69	66
0600	17	--	--	<.1	.2	1.4	145	128	9	200	6	30	70	67
0700	16	--	--	<.1	.2	1.4	140	128	8	195	7	203	70	67
0800	13	--	--	<.1	.2	1.4	145	128	8	200	6	360	71	67
0900	15	--	--	<.1	.2	1.4	150	128	9	195	8	675	73	68
1000	19	--	--	<.1	.2	1.4	150	128	7	220	8	920	76	69
1100	23	--	--	<.1	.3	1.4	160	128	8	215	8	1300	76	70
1200	33	--	--	<.1	.3	1.4	160	128	6	200	7	700	74	67
1300	35	--	--	<.1	.3	1.4	155	128	4	190	8	950	79	69
1400	22	--	--	<.1	.3	1.4	155	128	5	200	7	800	78	69
1500	22	--	--	<.1	.3	1.4	150	128	7	200	4	1125	78	69
1600	21	--	--	<.1	.3	1.4	155	128	7	200	7	875	76	67
1700	20	--	--	<.1	.3	1.4	155	128	5	210	9	750	76	68
1800	18	--	--	<.1	.2	1.4	150	128	8	215	7	500	76	68
1900	16	--	--	<.1	.2	1.4	150	128	10	230	7	175	74	68
2000	13	--	--	<.1	.2	1.4	150	128	8	220	6	35	72	68
2100	13	--	--	<.1	.3	1.4	150	128	9	220	6	0	71	67
2200	16	--	--	<.1	.3	1.4	150	128	8	215	6	0	72	68
2300	16	--	--	<.1	.3	1.4	150	128	8	215	7	0	71	68
2400	16	--	--	<.1	.3	1.4	150	128	7	210	7	0	71	67

TABLE 5. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 16, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	̳ _θ deg	RAD mLy	TMP °F	DP °F
0100	14	--	--	<.1	.3	1.4	150	128	3	205	7	0	70	67
0200	13	--	--	<.1	.3	1.4	150	128	3	180	9	0	70	67
0300	13	--	--	<.1	.3	1.4	150	128	2	170	13	0	70	67
0400	14	--	--	<.1	.3	1.4	150	128	4	190	11	0	70	67
0500	13	--	--	<.1	.3	1.4	150	128	5	205	7	0	70	68
0600	14	--	--	<.1	.3	1.4	150	128	6	210	6	25	70	67
0700	12	--	--	<.1	.3	1.4	150	128	4	200	5	107	72	69
0800	14	--	--	<.1	.3	1.4	150	128	7	210	5	180	72	69
0900	15	--	--	<.1	.3	1.4	150	128	6	210	6	333	74	69
1000	16	--	--	<.1	.3	1.4	155	128	4	215	7	565	76	70
1100	17	--	--	<.1	.3	1.4	155	128	5	180	7	850	78	69
1200	20	--	--	<.1	.3	1.4	160	128	6	180	8	1390	78	69
1300	22	8	10	<.1	.3	1.4	160	128	5	195	6	1425	80	70
1400	24	10	11	<.1	.4	1.4	160	128	6	185	8	1420	80	70
1500	24	7	8	<.1	.3	1.4	160	128	7	180	8	1300	80	69
1600	23	7	7	<.1	.3	1.4	155	128	8	190	7	1100	79	68
1700	23	7	9	<.1	.3	1.4	155	128	10	195	7	910	76	67
1800	20	6	9	<.1	.3	1.4	155	128	9	195	6	625	75	67
1900	19	6	11	<.1	.3	1.4	155	128	7	200	5	200	72	66
2000	15	6	8	<.1	.3	1.4	160	128	6	195	6	35	70	66
2100	15	6	5	<.1	.3	1.4	160	128	5	200	5	0	69	66
2200	17	6	7	<.1	.2	1.4	160	128	6	205	5	0	69	66
2300	18	7	8	<.1	.2	1.4	160	128	9	210	5	0	71	68
2400	20	7	8	<.1	.3	1.4	160	128	7	215	6	0	71	68

TABLE 6. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 17, 1975

Time hr	GAS DATA							MET. DATA						
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q _E deg	RAD mLy	TMP °F	DP °F
0100	20	7	8	<.1	.3	1.4	155	128	4	215	7	0	71	68
0200	21	7	8	<.1	.3	1.4	155	128	2	225	7	0	71	68
0300	21	6	8	<.1	.3	1.4	155	128	4	230	9	0	70	67
0400	20	6	9	<.1	.3	1.4	155	128	4	230	9	0	70	68
0500	19	6	9	<.1	.3	1.4	155	128	2	220	9	0	70	68
0600	20	6	8	<.1	.3	1.4	155	128	7	230	10	50	71	68
0700	20	6	9	<.1	.3	1.4	155	128	8	240	7	125	72	69
0800	19	7	9	<.1	.3	1.4	155	128	7	250	6	225	73	69
0900	20	6	10	<.1	.3	1.4	155	128	8	240	5	350	75	70
1000	23	6	10	<.1	.3	1.4	155	128	7	220	6	790	76	70
1100	23	8	14	<.1	.3	1.4	155	128	8	220	6	1000	78	71
1200	29	8	14	<.1	.3	1.4	155	128	8	230	6	1400	82	73
1300	35	7	14	<.1	.3	1.5	155	128	6	210	7	1500	84	73
1400	33	8	15	<.1	.3	1.5	155	128	6	195	7	1375	84	72
1500	30	6	10	<.1	.3	1.5	155	128	5	200	8	800	81	70
1600	31	6	9	<.1	.3	1.5	155	128	6	200	6	1050	80	70
1700	28	7	12	<.1	.3	1.5	150	128	8	210	6	750	78	68
1800	27	6	10	<.1	.3	1.5	150	128	9	210	6	425	74	68
1900	25	6	10	<.1	.3	1.5	150	128	11	220	6	200	73	68
2000	32	6	10	<.1	.3	1.5	155	128	13	240	6	25	73	68
2100	25	6	12	<.1	.3	1.5	155	128	10	250	7	0	72	69
2200	23	6	10	<.1	.3	1.5	155	128	13	250	8	0	74	70
2300	23	6	10	<.1	.3	1.5	155	128	12	250	8	0	74	70
2400	23	5	10	<.1	.3	1.5	155	128	5	235	11	0	72	69

TABLE 7. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 18, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	☉ deg	RAD mLy	TMP °F	DP °F
0100	21	5	10	<.1	.3	1.5	155	218	3	220	8	0	71	69
0200	21	5	10	<.1	.3	1.5	155	128	3	245	10	0	72	69
0300	23	6	11	<.1	.3	1.5	155	128	5	260	7	0	74	70
0400	23	6	10	<.1	.3	1.5	155	128	7	260	6	0	74	71
0500	21	6	11	<.1	.3	1.5	160	128	12	250	7	0	73	70
0600	20	6	11	<.1	.3	1.5	170	128	12	250	8	20	73	70
0700	19	6	13	<.1	.4	1.5	200	134	11	260	7	115	73	71
0800	20	6	13	<.1	.4	1.5	215	140	11	260	6	170	74	71
0900	19	7	15	<.1	.5	1.6	220	140	8	250	8	390	74	70
1000	24	8	16	<.1	.6	1.6	250	153	13	245	8	920	76	71
1100	62	7	19	.2	.6	1.6	325	174	14	250	8	1100	78	71
1200	97	6	20	.5	.8	1.7	470	186	12	250	8	1300	81	72
1300	113	6	21	.4	.9	1.8	475	220	11	230	8	1370	80	71
1400	155	6	23	.4	1.1	1.8	575	220	11	230	7	1350	81	72
1500	165	8	23	.4	1.2	1.8	500	198	8	220	7	1200	82	72
1600	108	7	23	.7	.8	1.6	350	183	7	220	7	950	82	72
1700	68	7	16	.3	.5	1.5	230	140	11	220	6	700	78	70
1800	70	7	13	.2	.5	1.5	225	128	8	230	5	300	75	68
1900	73	6	11	.3	.5	1.4	210	128	13	230	7	125	74	67
2000	63	6	11	.3	.4	1.4	200	128	11	250	7	35	73	68
2100	46	6	12	.3	.4	1.4	195	128	9	245	8	0	73	68
2200	52	6	7	.3	.4	1.4	180	128	8	250	8	0	73	68
2300	52	7	10	.3	.4	1.4	180	128	10	250	10	0	74	69
2400	46	7	10	.3	.4	1.4	180	128	11	260	7	0	74	69

TABLE 8. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 19, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppf	CCl ₄ ppf	WS mph	WD deg	Q _E deg	RAD mLy	TMP °F	DP °F
0100	38	7	10	.3	.4	1.4	170	128	11	260	7	0	74	69
0200	35	7	10	.3	.4	1.4	165	128	10	260	6	0	74	69
0300	35	7	10	.3	.4	1.4	165	128	10	250	8	0	74	69
0400	33	7	10	.3	.4	1.4	165	128	7	240	7	0	72	68
0500	32	7	10	.2	.3	1.4	165	128	8	235	9	0	73	69
0600	28	7	10	.2	.3	1.4	165	128	10	240	9	45	73	69
0700	20	8	11	.2	.3	1.4	165	128	11	240	8	250	73	69
0800	12	7	8	.3	.3	1.4	165	128	9	250	7	540	75	69
0900	13	7	11	.3	.4	1.4	165	128	10	245	7	800	76	69
1000	14	7	12	.3	.5	1.4	170	128	11	240	8	1050	77	69
1100	38	8	11	.3	.5	1.4	175	128	10	230	7	997	78	70
1200	50	8	11	.3	.5	1.4	180	128	8	225	7	1350	79	70
1300	55	8	12	.2	.5	1.4	170	128	12	230	7	1400	81	71
1400	53	7	8	.3	.4	1.4	165	128	15	230	7	1360	81	70
1500	58	7	11	.3	.4	1.4	165	128	18	225	6	1250	80	70
1600	59	7	9	.3	.4	1.4	165	128	15	220	6	875	78	69
1700	62	7	10	.2	.4	1.4	165	128	19	225	6	725	78	69
1800	55	6	11	.2	.4	1.4	165	128	19	225	6	500	77	69
1900	48	11	10	.2	.3	1.4	165	128	17	225	6	175	75	69
2000	42	14	8	.2	.3	1.4	160	128	17	230	7	50	75	69
2100	39	12	8	.2	.3	1.4	165	128	12	235	7	0	73	68
2200	39	12	9	.2	.3	1.4	165	128	16	240	8	0	73	69
2300	40	9	9	.2	.3	1.4	165	128	18	230	7	0	73	69
2400	39	7	8	.2	.3	1.4	165	128	17	235	7	0	72	68

TABLE 9.. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 20, 1975

Time hr	GAS DATA							MET. DATA						
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Ø _g deg	RAD mLy	TMP °F	DP °F
0100	34	10	5	.2	.3	1.4	165	128	18	240	7	0	74	69
0200	27	13	10	.2	.3	1.4	160	128	18	240	7	0	74	70
0300	26	14	10	.2	.3	1.4	155	128	18	250	7	0	75	70
0400	23	12	13	.2	.3	1.4	155	128	18	244	7	0	74	69
0500	26	12	10	.2	.3	1.4	155	128	12	255	6	0	73	69
0600	25	16	10	.2	.3	1.4	155	128	14	254	7	47	74	70
0700	24	16	12	.2	.4	1.4	155	128	13	335	7	100	74	70
0800	22	13	12	.2	.4	1.4	155	128	16	244	7	225	74	69
0900	20	13	15	.2	.4	1.4	160	128	12	260	5	550	75	70
1000	25	13	12	.2	.5	1.5	160	128	12	260	5	800	77	70
1100	22	13	12	.2	.5	1.5	165	128	9	249	6	1250	79	71
1200	37	12	14	.2	.5	1.5	175	128	7	226	7	420	80	71
1300	44	12	14	.2	.6	1.5	170	128	10	236	7	875	79	72
1400	58	12	16	.2	.5	1.5	165	128	13	220	7	1300	81	72
1500	50	11	19	.2	.5	1.5	160	123	14	226	6	975	80	71
1600	40	12	16	.2	.5	1.5	150	128	11	225	7	950	79	71
1700	33	12	13	.2	.5	1.4	150	128	10	225	7	725	79	71
1800	33	11	13	.2	.4	1.4	150	128	13	226	7	225	76	70
1900	28	11	11	<.1	.3	1.4	150	128	13	240	7	60	75	70
2000	26	12	12	<.1	.3	1.4	150	128	11	240	8	28	74	69
2100	23	15	12	<.1	.3	1.4	150	128	9	255	8	0	74	70
2200	25	16	11	<.1	.3	1.4	150	128	11	235	7	0	74	70
2300	25	15	11	<.1	.3	1.4	150	128	13	230	8	0	74	70
2400	27	12	11	<.1	.3	1.4	150	128	12	220	7	0	74	70

TABLE 10. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 21, 1975

Time hr	GAS DATA						MET. DATA								
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	☉ deg	RAD mly	TMP °F	DP °F	
0100	28	12	11	<.1	.3	1.4	145	122	17	225	7	0	74	70	
0200	30	12	11	<.1	.3	1.4	145	122	20	225	7	0	74	69	
0300	32	13	10	<.1	.3	1.4	145	128	19	225	7	0	73	69	
0400	34	13	10	<.1	.3	1.4	145	128	17	220	8	0	73	70	
0500	36	12	11	<.1	.3	1.5	145	128	17	240	7	0	72	69	
0600	25	13	13	<.1	.4	1.5	155	128	19	250	7	30	72	69	
0700	37	12	13	<.1	.4	1.5	165	128	17	260	7	50	72	69	
0800	35	13	13	.2	.4	1.5	180	128	13	260	7	275	73	70	
0900	31	13	17	.2	.5	1.5	190	134	11	255	6	690	74	70	
1000	39	13	15	.3	.5	1.7	230	140	12	252	7	1050	76	70	
1100	52	13	16	.3	.5	1.7	250	146	14	251	7	1275	77	70	
1200	53	14	24	.3	.6	1.7	320	146	15	250	6	1425	78	70	
1300	76	14	18	.3	.7	1.7	280	153	16	260	6	1450	78	71	
1400	92	17	17	.2	.7	1.7	285	153	15	260	6	1408	81	72	
1500	110	15	15	.3	.7	1.5	275	153	15	255	6	1250	82	72	
1600	119	15	15	.3	.7	1.5	220	134	16	260	6	1050	82	70	
1700	120	16	17	.3	.7	1.5	220	128	17	265	5	800	82	69	
1800	123	17	17	.3	.7	1.5	250	128	15	265	6	525	82	69	
1900	152	17	18	.4	.8	1.5	340	153	13	260	6	200	80	70	
2000	93	16	14	.3	.6	1.5	240	140	12	245	7	50	76	69	
2100	81	16	16	.3	.6	1.5	220	134	12	260	7	0	75	69	
2200	84	16	14	.3	.7	1.5	220	134	8	265	7	0	75	70	
2300	80	17	15	.2	.8	1.6	260	153	5	280	11	0	76	70	
2400	66	14	18	.2	.8	1.6	255	153	CALM						74

TABLE 11. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 22, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	☉ deg	RAD mLy	TMP °F	DP °F
0100	67	12	15	.2	.8	1.6	255	140	4	235	12	0	73	70
0200	48	12	17	.2	.9	1.6	315	146	CALM		15	0	73	69
0300	33	12	22	.3	.9	1.6	355	153	CALM		13	0	72	69
0400	29	12	19	.5	.8	1.6	350	153	CALM		15	0	71	68
0500	24	12	21	.5	.8	1.6	310	153	CALM		14	0	70	66
0600	27	12	21	.3	.7	1.6	265	140	CALM		10	50	71	65
0700	30	12	17	.3	.8	1.6	290	146	5	270	7	500	72	68
0800	32	14	21	.2	.5	1.6	330	153	CALM		6	750	78	65
0900	44	17	18	.2	.5	1.6	280	140	CALM		7	900	82	65
1000	46	10	14	.2	.5	1.6	210	140	CALM		10	1100	85	65
1100	55	10	13	.2	.5	1.6	185	134	5	260	20	1275	86	65
1200	59	11	12	.2	.5	1.5	185	134	6	265	13	1300	86	66
1300	78	11	15	.2	.7	1.6	350	146	15	250	8	1075	80	68
1400	118	12	18	.3	.8	1.6	500	153	17	250	6	1375	80	70
1500	121	12	14	.3	.8	1.6	390	146	17	255	5	1250	81	69
1600	111	11	15	.2	.7	1.6	310	128	16	255	6	970	82	68
1700	112	9	15	.2	.7	1.6	260	128	13	250	6	700	80	68
1800	105	7	15	.3	.7	1.6	210	128	13	255	6	430	80	67
1900	104	10	15	.3	.7	1.6	195	128	11	260	5	175	77	68
2000	90	11	14	.3	.7	1.6	255	128	9	260	5	45	76	68
2100	72	11	18	.3	.9	1.6	310	128	CALM		10	0	75	67
2200	54	11	22	.5	.5	1.6	285	128	CALM		23	0	73	66
2300	48	11	15	.5	.5	1.6	385	128	CALM		14	0	72	67
2400	33	12	24	.5	.5	1.6	360	128	CALM		8	0	72	67

TABLE 12. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 23, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	CE deg	RAD mLy	TMP °F	DP °F
0100	33	13	19	.4	1.2	1.7	360	128	3	355	11	31	71	68
0200	12	15	20	.6	1.2	1.7	380	128	2	040	11	32	70	67
0300	<5	18	19	.4	1.5	1.7	430	299	3	030	13	39	69	67
0400	<5	16	24	.3	1.0	1.6	310	421	3	030	10	38	68	64
0500	<5	14	19	.3	.8	1.6	250	268	2	045	8	27	66	62
0600	<5	13	20	.4	.7	1.6	260	329	2	270	10	75	67	63
0700	19	16	24	.5	.8	1.6	270	472	5	265	5	350	71	63
0800	30	17	16	.2	.6	1.6	220	134	9	265	6	500	74	64
0900	36	17	19	.3	.7	1.6	235	122	9	270	7	850	79	66
1000	44	16	19	.3	.7	1.6	230	122	13	260	6	1100	79	67
1100	53	15	18	.3	.7	1.6	255	122	14	250	6	1250	78	66
1200	63	7	14	.3	.6	1.6	220	122	13	245	5	1375	79	66
1300	71	6	17	<.1	.6	1.6	175	122	10	240	6	1380	80	65
1400	83	6	15	<.1	.6	1.6	170	122	6	210	12	1325	82	65
1500	93	6	15	<.1	.6	1.6	170	128	6	230	8	1150	83	66
1600	100	7	15	<.1	.6	1.6	175	140	9	240	6	975	82	67
1700	104	7	17	<.1	.7	1.6	185	134	5	235	6	1000	83	67
1800	128	7	17	.2	.7	1.6	255	140	4	210	8	425	81	68
1900	120	6	18	.2	.6	1.6	245	140	5	230	11	175	78	68
2000	116	7	14	.2	.6	1.6	225	140	5	225	11	35	76	68
2100	99	7	15	<.1	.6	1.6	205	140	4	220	12	1	74	68
2200	82	6	14	<.1	.6	1.6	185	134	3	225	13	0	72	67
2300	78	6	14	<.1	.6	1.6	180	134	3	220	20	0	72	67
2400	74	7	12	<.1	.5	1.6	170	122	4	210	13	2	72	67

TABLE 13. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 24, 1975

Time hr	GAS DATA							MET. DATA						
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	CO ₂ deg	RAD mLy	TMP °F	DP °F
0100	73	7	13	<.1	.5	1.6	160	122	4	215	11	3	72	67
0200	68	7	13	<.1	.4	1.5	160	122	3	255	9	3	72	67
0300	56	7	12	<.1	.4	1.5	160	134	9	250	5	4	72	67
0400	46	6	12	<.1	.3	1.5	145	122	11	255	5	1	73	65
0500	42	7	12	.2	.4	1.5	150	122	13	255	5	1	73	65
0600	40	8	12	.2	.4	1.5	165	122	9	245	6	38	72	65
0700	54	7	13	.2	.4	1.5	160	122	6	230	8	300	74	65
0800	50	7	17	.2	.5	1.5	165	128	6	240	6	600	76	67
0900	62	7	15	.2	.6	1.5	180	134	10	245	5	850	77	68
1000	74	7	15	.2	.6	1.5	175	122	4	210	6	1050	80	69
1100	80	7	17	.2	.6	1.5	175	122	5	200	6	1225	82	69
1200	86	7	16	.2	.7	1.5	175	128	4	200	10	1320	82	69
1300	86	7	14	.2	.7	1.5	185	122	7	195	7	1300	82	70
1400	90	7	14	.2	.6	1.5	180	122	6	210	10	800	80	69
1500	82	7	13	<.1	.6	1.5	180	122	7	190	8	900	80	69
1600	80	7	13	<.1	.6	1.5	185	122	7	200	7	750	79	70
1700	66	7	13	<.1	.5	1.5	165	122	8	215	9	800	80	70
1800	56	8	14	<.1	.4	1.5	160	128	12	220	7	400	77	70
1900	48	7	12	<.1	.4	1.5	155	116	12	220	7	100	75	69
2000	40	7	12	<.1	.3	1.5	140	116	16	220	6	20	75	69
2100	37	7	10	<.1	.3	1.5	140	116	16	220	6	0	74	69
2200	29	7	11	<.1	.3	1.5	135	116	18	220	6	0	74	69
2300	30	7	10	<.1	.3	1.5	135	116	18	275	6	0	73	69
2400	29	7	10	<.1	.3	1.5	130	110	16	225	6	0	73	69

TABLE 14. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 25, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q _S deg	RAD mLy	TMP °F	DP °F
0100	31	7	10	<.1	.2	1.5	130	119	20	230	2	5	74	69
0200	34	13	10	<.1	.3	1.5	135	119	16	250	7	18	73	68
0300	42	7	11	<.1	.3	1.5	150	119	12	260	6	0	71	67
0400	47	7	11	<.1	.3	1.5	150	119	7	230	10	0	70	67
0500	48	7	11	<.1	.3	1.5	150	119	8	225	7	0	70	67
0600	51	7	11	<.1	.3	1.5	140	119	8	215	8	18	70	67
0700	46	7	12	<.1	.3	1.5	140	119	8	200	5	100	71	68
0800	41	8	13	<.1	.3	1.5	140	119	9	205	6	220	71	68
0900	41	8	12	<.1	.3	1.5	140	119	9	200	5	400	72	68
1000	28	7	12	<.1	.3	1.5	145	119	11	235	7	375	73	69
1100	27	9	15	<.1	.5	1.5	150	119	13	240	6	350	74	69
1200	34	14	10	<.1	.5	1.5	150	119	9	250	5	325	74	69
1300	30	12	8	<.1	.4	1.5	145	116	9	230	6	370	75	69
1400	33	11	10	<.1	.4	1.5	145	119	12	230	6	225	73	69
1500	36	11	9	<.1	.5	1.5	160	125	12	245	5	150	73	69
1600	43	12	7	<.1	.4	1.5	175	125	12	250	4	130	73	69
1700	36	12	7	<.1	.5	1.5	150	119	13	225	6	225	73	70
1800	34	12	8	<.1	.5	1.5	150	125	13	230	7	130	73	70
1900	33	11	11	<.1	.6	1.5	185	125	9	240	6	60	73	70
2000	48	11	7	<.1	.4	1.5	160	125	13	220	13	2	72	69
2100	46	11	6	<.1	.3	1.5	140	122	12	230	9	0	71	67
2200	46	12	5	<.1	.4	1.5	180	131	13	260	10	0	71	68
2300	40	11	8	<.1	.7	1.5	235	137	3	260	17	0	70	68
2400	34	11	8	<.1	.8	1.5	230	131	4	260	8	0	70	68

TABLE 15. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 26, 1975

Time hr	GAS DATA							MET. DATA						
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q _E deg	RAD mLy	TMP °F	DP °F
0100	27	11	8	.2	.7	1.5	230	131	2	250	2	0	70	68
0200	23	11	8	.2	.6	1.5	170	128	3	020	8	0	68	62
0300	27	11	5	.2	.5	1.5	170	128	2	040	7	0	66	58
0400	27	10	5	.2	.4	1.5	170	128	2	040	8	0	65	56
0500	29	10	3	.2	.3	1.5	155	128	1	030	7	0	63	53
0600	26	10	3	.2	.3	1.5	150	122	2	200	7	20	62	52
0700	21	10	3	.2	.3	1.5	160	128	2	220	7	200	63	51
0800	18	11	4	.2	.3	1.5	165	128	4	230	7	550	67	53
0900	24	11	3	.2	.3	1.5	160	128	4	235	13	900	71	53
1000	27	11	3	.2	.4	1.5	165	128	2	245	13	1150	73	52
1100	29	11	4	<.1	.4	1.6	155	116	2	225	8	1300	75	53
1200	35	9	3	<.1	.4	1.6	155	116	2	010	7	1425	75	53
1300	37	9	3	<.1	.4	1.6	155	116	3	010	9	1460	77	54
1400	41	10	3	<.1	.4	1.6	155	122	4	020	12	1450	78	54
1500	44	9	3	<.1	.4	1.6	150	128	2	005	7	1370	80	54
1600	47	7	2	<.1	.4	1.6	155	128	3	020	10	1150	81	54
1700	50	6	2	<.1	.4	1.6	155	128	4	020	8	900	80	53
1800	50	7	2	<.1	.4	1.6	160	128	4	025	11	650	79	52
1900	49	6	3	<.1	.4	1.6	170	128	1	360	7	325	77	52
2000	45	6	7	<.1	.4	1.6	180	128	2	030	10	25	72	50
2100	36	6	14	<.1	.5	1.6	230	131	1	010	10	2	68	50
2200	<5	>50	NOx	.2	1.0	1.6	395	137	3	020	14	0	66	51
2300	<5	>50	NOx	.4	1.8	1.6	515	137	2	035	12	0	62	52
2400	<5	>50	NOx	.4	1.5	1.6	455	171	2	030	10	0	60	53

TABLE 16. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 27, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q ₆ deg	RAD mLy	TMP °F	DP °F
0100	<5	26	42	.3	1.3	1.6	355	622	3	020	12		0 60	53
0200	<5	14	36	<.1	1.1	1.6	270	592	2	040	18		0 58	52
0300	<5	8	30	.2	.9	1.6	255	253	2	020	15		0 56	52
0400	<5	8	28	.2	.8	1.6	245	189	2	025	20		0 55	51
0500	<5	6	18	.2	.7	1.6	220	146	3	020	15		5 55	51
0600	<5	8	18	.2	.6	1.6	220	137	3	020	16	200	57	52
0700	10	12	14	.2	.6	1.7	205	128	4	020	13	525	65	54
0800	19	10	8	.2	.5	1.6	195	128	4	010	18	800	70	55
0900	27	9	8	<.1	.5	1.6	190	128	3	030	18	1050	75	57
1000	43	8	8	<.1	.6	1.6	195	128	3	140	19	1275	75	59
1100	60	7	8	<.1	.8	1.6	200	128	4	135	20	1400	76	61
1200	69	7	11	<.1	.9	1.5	185	128	4	130	7	1325	79	58
1300	71	6	5	<.1	.6	1.5	170	128	4	195	8	1440	79	61
1400	73	7	5	<.1	.6	1.5	155	128	6	195	7	1450	79	61
1500	61	6	5	<.1	.5	1.5	145	131	6	195	7	1350	79	58
1600	64	6	3	<.1	.5	1.5	145	131	5	205	5	1150	77	57
1700	67	6	3	<.1	.6	1.5	155	131	7	190	6	850	76	56
1800	65	7	4	<.1	.5	1.5	150	131	7	185	6	625	75	57
1900	63	5	3	<.1	.5	1.5	145	128	6	170	14	325	73	58
2000	62	6	3	<.1	.5	1.5	140	128	3	190	9	20	68	56
2100	60	5	2	<.1	.5	1.5	145	128	4	150	11	0	64	57
2200	54	6	1	<.1	.5	1.5	145	128	7	210	18	0	65	58
2300	53	5	2	<.1	.4	1.5	140	128	8	230	8	0	66	57
2400	54	5	3	<.1	.4	1.5	140	128	8	265	8	0	66	59

TABLE 17. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 28, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q _E deg	RAD mLy	TMP °F	DP °F
0100	49	5	4	<.1	.4	1.5	145	122	6	270	6	0	65	59
0200	48	5	7	<.1	.4	1.5	145	116	11	270	7	0	65	59
0300	59	5	2	<.1	.4	1.5	140	116	13	260	7	0	67	59
0400	64	5	2	<.1	.4	1.5	135	116	12	260	8	0	68	58
0500	64	6	2	<.1	.4	1.5	135	116	17	240	6	0	68	60
0600	66	6	2	<.1	.4	1.5	140	122	15	240	6	10	69	62
0700	75	6	6	<.1	.5	1.5	155	122	16	235	6	90	70	62
0800	71	6	8	<.1	.5	1.5	155	122	14	230	7	290	71	64
0900	70	7	7	<.1	.5	1.5	185	128	17	235	7	400	72	64
1000	70	6	7	<.1	.6	1.6	220	128	17	240	6	425	73	65
1100	68	6	12	.3	.9	1.8	290	174	16	250	5	700	74	65
1200	72	7	24	.2	1.1	1.8	365	198	12	250	5	730	75	65
1300	108	7	24	.2	1.2	1.8	375	186	11	230	7	1350	78	66
1400	123	7	26	.2	1.3	1.8	415	186	10	230	6	1320	78	67
1500	138	7	20	.2	1.2	1.8	380	174	9	225	6	1175	78	67
1600	--	--	--	<.1	.9	1.7	260	140	--	--	--	--	--	--
1700	123	6	10	<.1	.9	1.7	270	134	10	225	6	675	77	68
1800	118	5	13	<.1	.8	1.7	260	128	13	235	7	415	76	67
1900	98	5	14	<.1	.8	1.7	225	128	10	245	7	160	74	67
2000	96	5	9	<.1	.8	1.7	215	116	9	250	6	30	73	67
2100	90	5	7	<.1	.8	1.7	225	122	10	260	5	0	73	67
2200	79	5	8	<.1	.7	1.7	200	122	10	255	4	0	73	67
2300	--	--	--	<.1	.6	1.6	210	122	--	--	--	--	--	--
2400	68	6	7	<.1	.8	1.6	210	122	3	270	9	0	71	68

TABLE 18. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 29, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q _E deg	RAD mly	TMP °F	DP °F
0100	63	6	5	<.1	.8	1.6	210	116	3	265	11	0	71	68
0200	60	7	5	<.1	.8	1.6	219	116	5	270	8	0	71	68
0300	53	6	5	<.1	.7	1.6	220	116	2	255	12	0	71	68
0400	38	7	15	.2	.7	1.7	280	122	2	270	12	0	70	67
0500	24	6	18	.2	1.0	1.7	270	162	2	030	10	2	67	64
0600	24	7	19	.2	1.0	1.7	300	290	2	015	13	45	66	64
0700	18	10	25	.2	1.0	1.7	355	464	2	250	11	225	68	63
0800	17	16	30	.3	1.1	1.8	416	509	3	250	7	520	72	64
0900	26	10	19	.2	1.3	1.6	230	134	2	240	7	850	78	62
1000	35	7	9	<.1	.4	1.6	180	140	1	230	7	1090	83	60
1100	36	6	8	<.1	.4	1.6	170	128	3	240	7	1200	84	58
1200	--	5	7	<.1	.4	1.6	165	116	5	245	15	1300	84	54
1300	54	5	6	<.1	.4	1.6	165	116	6	245	17	1425	86	55
1400	51	5	5	<.1	.4	1.6	160	116	7	260	14	1375	85	54
1500	50	5	3	<.1	.4	1.6	150	122	7	260	15	1300	86	53
1600	56	6	10	<.1	.4	1.6	155	128	5	255	20	1075	86	53
1700	53	6	12	<.1	.4	1.6	155	122	6	245	11	775	83	60
1800	51	5	6	<.1	.4	1.6	155	116	2	290	12	525	85	55
1900	46	5	9	<.1	.4	1.6	175	128	2	015	7	175	80	54
2000	33	5	18	<.1	.8	1.6	210	128	2	040	9	23	76	56
2100	30	5	14	<.1	.6	1.6	190	128	2	030	9	0	73	54
2200	24	5	20	<.1	.6	1.6	240	128	3	015	15	0	71	53
2300	13	10	30	.2	.9	1.6	260	207	3	040	13	0	68	54
2400	<5	13	34	.2	.9	1.6	245	207	3	035	16	0	65	57

TABLE 19. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 30, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	☉ deg	RAD mLy	TMP °F	DP °F
0100	<5	10	31	.4	1.0	1.7	295	207	2	270	13	0	66	58
0200	<5	15	37	.2	.8	1.9	330	232	2	245	19	0	67	57
0300	<5	19	36	.2	.7	1.7	255	336	3	020	10	0	66	57
0400	<5	22	30	.2	.7	1.7	255	393	3	040	8	0	63	56
0500	<5	22	32	.2	.7	1.7	240	927	3	025	8	0	62	56
0600	<5	26	32	.3	.7	1.7	245	1275	2	040	15	50	62	56
0700	<5	28	31	.2	.9	1.8	415	741	2	040	13	350	66	59
0800	<5	34	44	.3	1.5	1.8	500	336	3	210	14	600	72	60
0900	20	29	42	.4	1.5	1.8	435	476	3	255	12	875	77	61
1000	25	31	50	.3	1.4	1.8	395	534	5	230	8	1050	77	62
1100	38	20	34	<.1	.8	1.8	265	278	7	220	7	1275	75	63
1200	46	11	18	<.1	.7	1.6	175	128	9	225	7	1390	76	65
1300	55	11	17	<.1	.6	1.6	165	116	8	230	7	1410	78	66
1400	78	10	20	<.1	.7	1.7	185	122	11	240	5	1375	79	67
1500	105	9	21	<.1	.9	1.7	265	122	14	250	5	1290	79	66
1600	87	7	12	<.1	.7	1.7	235	122	13	250	5	1050	79	65
1700	85	7	14	<.1	.6	1.6	180	116	12	250	6	800	78	65
1800	83	7	14	<.1	.6	1.6	170	122	11	250	6	480	78	64
1900	78	7	13	<.1	.6	1.6	175	122	10	260	6	175	76	64
2000	73	6	11	<.1	.6	1.6	230	122	9	260	5	40	76	63
2100	68	6	12	<.1	.7	1.6	220	128	6	270	6	0	75	63
2200	58	6	18	<.1	.8	1.6	225	128	3	270	15	0	74	63
2300	61	6	11	<.1	.8	1.6	240	128	6	240	8	0	72	65
2400	71	7	12	<.1	.7	1.6	230	128	9	255	5	0	72	65

TABLE 20. SURFACE DATA COLLECTED AT GROTON, CT ON JULY 31, 1975

Time hr	GAS DATA							MET. DATA						
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	☉ deg	RAD mLy	TMP °F	DP °F
0100	66	8	8	<.1	.6	1.6	190	128	11	260	6	0	72	66
0200	58	7	7	<.1	.4	1.6	175	122	13	265	6	0	73	64
0300	51	7	7	<.1	.4	1.6	175	122	11	260	6	0	72	64
0400	49	7	7	<.1	.4	1.6	175	122	14	255	5	0	71	65
0500	38	7	14	<.1	.6	1.6	215	128	11	270	7	0	72	64
0600	28	8	24	<.1	.8	1.8	270	128	8	270	8	49	71	64
0700	22	10	33	<.1	1.0	1.9	345	134	8	270	8	225	71	64
0800	25	18	50	.3	1.5	2.0	420	198	10	270	7	450	75	65
0900	28	20	60	.5	1.7	2.1	440	360	8	255	7	750	77	66
1000	38	20	65	.4	1.6	2.2	555	207	13	250	7	1000	76	66
1100	75	15	47	.2	1.4	2.2	445	162	15	255	6	1250	77	67
1200	101	10	32	.2	1.3	2.1	300	134	14	255	7	1360	78	68
1300	128	10	32	.2	1.4	2.1	435	131	12	240	7	1350	79	69
1400	168	9	34	.2	1.4	2.1	455	162	18	260	6	1250	79	69
1500	178	8	26	<.1	1.4	2.0	410	149	16	260	7	1050	81	69
1600	176	8	24	<.1	1.2	1.9	330	122	14	260	6	640	81	69
1700	178	9	19	<.1	1.1	1.8	295	116	15	260	6	570	80	69
1800	133	9	23	<.1	1.0	1.8	245	116	7	270	8	360	83	70
1900	128	8	28	<.1	1.3	1.7	250	116	3	270	10	150	83	70
2000	123	9	40	.2	1.6	1.7	290	122	4	270	13	50	80	70
2100	138	9	25	<.1	1.3	1.7	275	128	7	260	11	3	78	70
2200	126	9	22	<.1	1.3	1.7	265	116	7	270	14	0	78	70
2300	98	9	27	.2	1.5	1.8	375	131	6	270	10	0	80	70
2400	90	9	28	.2	1.6	1.8	385	134	4	275	7	0	79	70

TABLE 21. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 1, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	OE deg	RAD mLy	TMP °F	DP °F
0100	83	9	25	.3	1.6	1.8	385	137	2	260	11	0	78	70
0200	76	9	26	.2	1.6	1.9	360	140	3	270	14	0	75	70
0300	55	8	27	.4	1.7	1.9	410	162	2	260	13	0	75	70
0400	37	8	35	.4	1.9	2.0	510	162	1	270	8	0	75	70
0500	24	8	36	.4	1.8	2.0	490	162	1	230	12	0	73	70
0600	5	10	38	.4	1.3	2.0	370 > 1800		2	260	9	60	74	71
0700	21	10	31	.3	1.5	2.0	410 > 1800		1	050	14	200	76	72
0800	38	11	27	<.1	1.1	1.8	350	302	2	010	12	450	82	73
0900	46	10	18	<.1	.8	1.8	275	140	3	030	21	800	87	74
1000	52	13	40	.2	1.2	1.8	280	220	4	240	10	1000	89	74
1100	73	12	32	.2	1.6	1.8	290	162	5	245	9	1150	84	73
1200	96	11	30	<.1	1.7	1.9	365	152	7	250	8	1300	84	73
1300	108	12	42	<.1	1.7	1.8	325	152	6	255	9	1325	86	74
1400	126	11	35	<.1	1.3	1.8	280	134	8	255	9	1300	86	74
1500	118	11	34	<.1	1.3	1.8	260	140	9	250	8	1175	85	74
1600	133	9	24	<.1	1.3	1.8	280	140	11	260	7	1000	84	74
1700	97	10	17	<.1	.9	1.8	220	128	10	260	8	700	85	73
1800	108	9	22	<.1	.9	1.7	210	128	9	270	7	400	85	72
1900	102	8	25	<.1	1.2	1.7	320	128	10	270	6	73	84	72
2000	93	7	26	<.1	1.5	1.7	325	140	6	270	12	25	84	72
2100	78	7	40	.2	1.8	1.8	375	128	2	270	13	0	82	73
2200	87	6	30	<.1	1.5	1.8	355	128	2	260	14	0	81	73
2300	58	7	34	.2	1.9	1.8	355	134	3	265	8	0	80	72
2400	41	6	32	.2	1.8	1.8	425	140	5	265	7	0	77	72

TABLE 22. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 2, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	CO ₂ deg	RAD mLy	TMP °F	DP °F
0100	33	7	27	.2	1.5	1.8	425	140	4	270	7	0	76	72
0200	23	7	28	.3	1.1	1.7	335	140	3	270	9	0	76	71
0300	21	7	25	.3	.9	1.7	310	131	3	265	13	0	76	72
0400	23	7	23	.3	.9	1.7	285	125	3	250	12	0	76	72
0500	28	7	21	.3	.9	1.7	265	131	3	260	8	0	76	71
0600	19	8	22	.3	.9	1.7	275	131	4	260	8	45	74	70
0700	21	9	23	.3	.9	1.7	295	131	5	260	7	225	76	71
0800	20	11	30	.3	.8	1.7	280	342	3	250	12	430	82	72
0900	22	12	31	.3	.7	1.7	255	451	3	250	14	750	87	71
1000	36	14	35	.2	.7	1.7	240	262	4	260	13	1025	92	74
1100	63	8	18	.2	.6	1.6	245	232	2	260	9	1200	96	76
1200	98	11	30	.2	1.6	1.7	205	153	5	240	14	1300	90	75
1300	108	10	31	.2	1.3	1.7	230	131	9	260	10	1350	85	73
1400	123	12	30	.2	1.1	1.7	260	131	12	260	8	1300	84	73
1500	133	8	22	.2	1.1	1.7	255	131	13	255	8	1175	85	74
1600	133	9	17	.2	1.1	1.7	265	131	14	260	7	1000	86	74
1700	133	9	16	.2	1.1	1.7	235	131	12	260	7	725	86	74
1800	121	8	22	.2	1.1	1.7	245	131	10	260	8	400	83	73
1900	96	7	25	.2	1.2	1.7	235	128	7	265	11	200	81	72
2000	76	7	38	.4	1.6	1.7	320	134	3	265	7	25	81	73
2100	54	6	40	.4	1.7	1.7	290	128	2	240	13	0	78	72
2200	51	8	26	.4	1.6	1.8	355	140	3	250	12	0	80	75
2300	43	8	38	.4	1.4	1.8	400	134	3	245	20	0	83	77
2400	--	9	30	.4	1.2	1.7	275	122	3	260	14	0	82	75

TABLE 23. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 3, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q _E deg	RAD mLy	TMP °F	DP °F
0100	32	8	28	.3	1.2	1.8	265	128	CALM		11	0	81	73
0200	28	9	26	.4	1.2	1.8	295	140	CALM		10	0	78	73
0300	26	9	19	.3	1.0	1.7	260	153	CALM		16	0	76	72
0400	18	8	25	.3	1.0	1.8	270	153	CALM		16	0	75	71
0500	20	8	21	.3	.9	1.8	295	168	CALM		18	0	75	72
0600	36	8	17	.2	.7	1.8	245	140	CALM		13	39	76	71
0700	29	8	23	.4	.7	1.7	355	201	CALM		15	167	77	71
0800	37	10	24	.4	.7	1.7	310	476	3	255	15	513	84	73
0900	41	12	22	.4	1.1	1.7	265	180	5	255	11	821	83	73
1000	48	14	26	.3	1.0	1.7	240	137	6	250	12	757	82	72
1100	62	10	21	.3	1.0	1.8	260	143	5	250	13	955	83	73
1200	88	10	30	.4	1.3	1.8	295	146	7	255	11	1155	84	74
1300	110	9	18	.3	1.2	1.7	275	143	9	250	11	1273	84	74
1400	121	10	18	.3	1.2	1.7	275	131	12	250	8	1298	83	74
1500	126	8	17	.2	1.2	1.7	275	128	10	255	7	1091	85	74
1600	129	7	19	.2	1.3	1.7	270	128	7	235	9	628	84	73
1700	131	7	18	.2	1.5	1.7	260	128	4	215	8	338	84	72
1800	126	7	27	.2	1.8	1.7	245	128	3	140	12	318	84	72
1900	120	8	15	.2	1.7	1.7	245	131	9	095	18	158	81	72
2000	93	9	10	.2	1.7	1.6	215	125	10	090	16	55	82	69
2100	73	9	12	<.1	.5	1.6	190	125	10	075	26	0	78	71
2200	66	10	10	<.1	.5	1.6	195	128	7	070	20	0	76	71
2300	56	7	13	<.1	.7	1.6	245	128	6	040	18	0	77	71
2400	53	7	12	.2	.7	1.6	245	128	6	030	16	0	75	68

TABLE 24. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 4, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	☉ deg	RAD mLy	TMP °F	DP °F
0100	58	7	9	.2	.5	1.6	210	128	6	035	15	0	74	68
0200	57	7	8	.2	.5	1.6	200	128	6	035	17	0	74	68
0300	51	7	7	.2	.5	1.6	200	125	4	035	17	0	73	68
0400	40	7	4	.2	.3	1.5	155	116	7	060	23	0	72	68
0500	37	7	3	.2	.2	1.5	140	116	5	055	21	0	72	68
0600	35	7	2	.2	.2	1.5	140	116	4	045	14	16	72	68
0700	33	7	3	.2	.2	1.5	145	116	6	055	14	51	72	67
0800	31	7	4	.2	.2	1.5	145	116	5	050	19	72	72	67
0900	32	8	4	.2	.2	1.5	155	122	7	080	12	90	73	66
1000	38	9	5	.2	.2	1.5	150	116	9	080	11	145	73	67
1100	40	9	3	<.1	.3	1.6	145	116	9	080	9	255	72	67
1200	41	9	5	<.1	.3	1.6	145	116	7	085	7	422	74	68
1300	41	9	5	<.1	.3	1.6	141	116	7	075	16	268	74	67
1400	42	9	6	<.1	.3	1.6	136	116	7	080	14	270	74	67
1500	41	9	5	<.1	.3	1.6	132	116	9	085	10	239	74	67
1600	41	8	5	<.1	.3	1.6	132	116	9	080	17	244	74	66
1700	38	6	2	<.1	.3	1.6	132	116	8	085	22	295	73	65
1800	37	8	2	<.1	.3	1.6	132	116	8	075	24	75	72	66
1900	37	7	1	<.1	.3	1.6	136	116	7	065	24	49	72	66
2000	34	7	3	<.1	.3	1.6	136	116	4	055	19	0	72	66
2100	32	7	3	<.1	.3	1.6	141	127	CALM		19	0	72	67
2200	28	7	5	<.1	.3	1.6	141	116	5	050	19	0	72	67
2300	28	6	6	<.1	.3	1.6	154	127	4	035	15	0	72	67
2400	25	7	7	<.1	.3	1.6	150	116	4	055	18	0	72	68

TABLE 25. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 5, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	CG deg	RAD mLy	TMP °F	DP °F
0100	21	7	5	<.1	.2	1.6	145	116	4	045	24	0	72	68
0200	23	7	2	<.1	.2	1.7	136	116	CALM		17	0	72	68
0300	23	7	1	<.1	.2	1.7	136	116	CALM		21	0	72	69
0400	21	7	1	<.1	.2	1.8	145	116	CALM		6	0	73	70
0500	20	7	4	.2	.2	1.8	150	116	CALM		2	0	73	70
0600	9	7	10	.2	.3	1.8	172	127	4	270	5	21	73	69
0700	12	7	11	.2	.4	1.9	180	116	4	265	10	72	73	70
0800	7	12	15	.2	.5	1.8	167	127	5	245	6	180	73	69
0900	18	10	13	.2	.7	1.8	264	127	CALM		20	716	80	72
1000	24	10	15	.3	.7	1.7	216	137	CALM		9	950	86	72
1100	25	16	22	.2	.7	1.7	205	137	6	225	8	1147	80	70
1200	65	9	20	<.1	.7	1.8	221	137	11	250	7	1068	80	70
1300	80	8	13	<.1	.8	1.8	234	137	13	250	7	1377	71	71
1400	89	9	15	.2	.8	1.7	238	137	13	255	6	1240	71	71
1500	105	8	14	.2	.7	1.7	250	137	14	255	6	1200	82	71
1600	112	9	10	.2	.7	1.7	254	127	15	260	7	1026	82	72
1700	105	9	12	<.1	.5	1.7	213	127	14	260	6	850	83	70
1800	97	9	17	<.1	.6	1.7	176	127	12	255	7	490	80	70
1900	77	7	15	<.1	.6	1.7	160	127	10	255	8	159	77	69
2000	73	6	10	<.1	.5	1.7	152	116	6	265	11	39	75	69
2100	64	7	12	.2	.7	1.7	187	127	5	270	10	0	77	70
2200	43	7	25	.4	1.3	1.8	262	127	CALM		16	0	77	69
2300	30	6	35	.3	1.2	1.9	295	127	CALM		14	0	76	67
2400	28	7	23	.2	.9	1.7	250	127	CALM		9	0	76	66

TABLE 26. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 6, 1975

Time hr	GAS DATA							MET. DATA						
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	CL _g deg	RAD mLy	TMP °F	DP °F
0100	30	6	20	.2	.8	1.7	221	338	4	038	17	0	76	65
0200	28	6	22	<.1	.6	1.7	213	422	4	025	14	0	75	64
0300	30	7	14	<.1	.5	1.7	217	159	5	010	22	0	75	64
0400	26	6	14	<.1	.5	1.7	201	137	7	015	14	0	74	64
0500	22	6	11	<.1	.5	1.7	180	127	7	015	15	0	73	64
0600	21	6	9	<.1	.5	1.7	180	127	7	023	16	24	72	63
0700	20	7	11	<.1	.5	1.7	185	127	5	030	16	99	73	62
0800	19	7	12	<.1	.5	1.7	197	127	5	025	19	304	74	61
0900	20	8	11	<.1	.5	1.7	189	127	6	020	17	450	76	63
1000	39	8	10	<.1	.7	1.7	197	127	5	050	20	813	80	66
1100	51	9	19	<.1	1.1	1.8	316	127	5	130	18	702	83	68
1200	61	9	22	<.1	.9	1.8	369	127	7	085	20	351	77	68
1300	70	9	12	<.1	.7	1.7	282	127	8	085	17	526	77	69
1400	70	8	10	<.1	.7	1.7	221	127	6	080	18	380	76	69
1500	71	8	9	<.1	.6	1.7	205	127	8	087	18	280	76	69
1600	68	8	8	<.1	.7	1.7	201	127	6	090	13	134	75	69
1700	62	9	12	.2	.9	1.7	221	127	5	060	23	108	75	69
1800	27	8	32	.2	.9	1.7	299	137	9	035	17	80	76	66
1900	25	8	28	<.1	.7	1.7	271	127	11	033	17	39	74	65
2000	24	8	20	<.1	.5	1.7	234	127	12	028	18	13	73	65
2100	30	8	14	<.1	.4	1.7	187	116	11	042	16	0	72	63
2200	27	7	9	<.1	.3	1.7	152	127	12	039	13	0	71	63
2300	22	6	8	<.1	.3	1.7	148	127	9	045	13	0	69	62
2400	18	6	10	<.1	.3	1.7	148	127	9	030	17	0	67	63

TABLE 27. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 7, 1975

Time hr	GAS DATA							MET. DATA						
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCI ₄ ppt	WS mph	WD deg	CS deg	RAD mLy	TMP °F	DP °F
0100	17	6	9	<.1	.3	1.7	140	127	10	025	17	0	67	62
0200	17	6	8	<.1	.2	1.7	140	127	10	025	18	0	67	63
0300	16	6	7	<.1	.2	1.7	137	127	12	025	14	0	67	63
0400	17	6	5	<.1	.2	1.7	133	127	10	020	16	0	67	62
0500	18	6	4	<.1	.2	1.7	140	127	11	020	14	0	66	62
0600	16	6	5	<.1	.2	1.6	144	127	10	020	16	0	66	62
0700	15	6	6	<.1	.2	1.6	148	127	11	020	17	40	66	62
0800	13	6	6	<.1	.3	1.6	152	127	11	020	16	80	66	61
0900	13	10	8	.2	.3	1.6	152	127	12	020	18	90	66	61
1000	12	8	8	.2	.3	1.6	125	127	13	020	18	167	65	61
1100	13	8	8	<.1	.5	1.6	203	127	12	025	15	307	65	60
1200	14	9	8	<.1	.5	1.6	187	127	14	020	17	318	66	59
1300	13	8	12	<.1	.4	1.6	195	137	9	020	18	175	65	59
1400	15	9	11	<.1	.4	1.6	183	127	7	020	19	231	64	59
1500	13	8	13	<.1	.5	1.6	179	127	4	015	26	168	65	60
1600	14	9	13	.2	1.0	1.6	183	127	6	020	22	135	65	59
1700	8	10	20	<.1	.5	1.6	223	148	CALM		7	112	64	59
1800	11	7	16	<.1	.4	1.6	179	127	CALM		7	84	64	59
1900	12	7	12	<.1	.3	1.6	179	127	3	025	7	50	63	59
2000	12	6	11	<.1	.3	1.6	156	127	CALM		7	19	63	58
2100	15	6	8	<.1	.3	1.6	144	137	CALM		7	0	62	58
2200	15	6	8	<.1	.3	1.6	144	137	4	030	7	0	63	57
2300	13	8	10	<.1	.3	1.6	144	137	CALM		3	0	64	57
2400	12	8	13	<.1	.3	1.6	144	127	CALM		7	0	63	57

TABLE 28. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 8, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	☉ deg	RAD mLy	TMP °F	DP °F
0100	11	8	14	<.1	.3	1.7	148	127	CALM		7	0	63	57
0200	13	6	9	<.1	.2	1.7	140	127	3	250	8	0	64	58
0300	16	6	6	<.1	.2	1.7	140	127	3	220	7	0	64	58
0400	11	8	13	<.1	.2	1.7	140	137	3	230	7	0	63	58
0500	13	6	7	<.1	.2	1.7	140	137	3	240	10	0	63	58
0600	10	8	13	<.1	.2	1.7	140	137	CALM		7	19	64	59
0700	10	8	10	<.1	.4	1.7	156	127	3	220	7	248	67	59
0800	8	10	11	<.1	.4	1.7	164	137	CALM		7	370	67	59
0900	11	9	9	<.1	.4	1.7	168	127	CALM		7	458	70	61
1000	11	9	11	<.1	.4	1.7	176	127	3	220	12	272	70	61
1100	10	10	8	<.1	.5	1.7	183	127	4	240	23	742	68	61
1200	8	10	13	<.1	.7	1.7	176	127	3	230	15	321	70	62
1300	14	13	15	<.1	.5	1.7	168	127	CALM		7	476	73	63
1400	13	16	17	<.1	.5	1.7	179	127	CALM		7	500	70	63
1500	12	11	14	<.1	.7	1.7	191	127	5	025	7	365	69	62
1600	8	10	16	<.1	.7	1.7	168	127	3	240	7	280	71	64
1700	<5	12	20	<.1	.6	1.7	160	116	CALM		7	200	69	64
1800	8	10	15	<.1	.5	1.7	167	116	CALM		7	160	71	64
1900	<5	7	18	.2	.5	1.6	167	116	CALM		7	30	70	64
2000	5	7	16	.2	.5	1.6	179	395	3	030	13	12	69	63
2100	<5	8	22	.2	.6	1.6	182	125	CALM		9	0	69	63
2200	<5	6	18	.2	.6	1.6	186	135	CALM		7	0	69	63
2300	<5	9	20	<.1	.7	1.7	209	125	CALM		20	0	69	62
2400	<5	9	19	<.1	.5	1.7	186	116	3	265	10	0	69	62

TABLE 29. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 9, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q _g deg	RAD mLy	TMP °F	DP °F
0100	< 5	8	14	< .1	.5	1.7	167	116	5	265	8	0	68	62
0200	< 5	8	14	< .1	.6	1.7	175	125	3	vrh	15	0	68	62
0300	< 5	9	17	< .1	.6	1.7	171	125	3	260	11	0	67	62
0400	< 5	8	15	< .1	.6	1.7	175	116	4	270	7	0	67	62
0500	< 5	8	17	< .1	.6	1.7	190	116	5	275	11	0	67	62
0600	< 5	8	18	< .1	.7	1.7	190	125	CALM		12	21	65	61
0700	< 5	9	16	< .1	.6	1.7	194	299	CALM		10	97	65	62
0800	11	9	17	< .1	.6	1.7	205	289	CALM		10	497	67	63
0900	20	8	14	< .1	.5	1.7	201	164	CALM		7	836	76	64
1000	35	8	14	< .1	.5	1.7	190	125	3	030	10	1063	78	63
1100	45	8	19	< .1	.7	1.7	175	125	4	240	18	1268	80	63
1200	50	9	18	< .1	.7	1.7	160	116	7	230	9	1405	77	65
1300	70	10	20	< .1	.6	1.7	182	116	15	240	9	1442	76	65
1400	81	8	15	< .1	.6	1.7	186	116	14	250	9	1410	76	64
1500	82	6	11	< .1	.6	1.7	179	125	17	260	6	1251	77	64
1600	82	6	10	< .1	.5	1.7	175	125	18	260	6	1023	78	63
1700	94	6	11	< .1	.5	1.7	175	125	18	268	6	745	77	63
1800	96	8	12	< .1	.5	1.6	163	125	17	270	6	522	77	63
1900	88	8	13	< .1	.6	1.6	243	125	12	275	7	219	76	65
2000	72	7	16	< .1	.9	1.7	300	125	7	280	6	10	74	62
2100	50	6	24	.2	1.0	1.7	285	125	6	285	11	0	73	62
2200	25	8	30	.3	1.4	1.7	270	116	6	290	11	0	72	62
2300	16	6	33	--	--	--	292	108	3	280	16	0	70	61
2400	40	6	22	--	--	--	248	108	6	285	8	0	70	63

TABLE 30. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 10, 1975

Time hr	GAS DATA							MET. DATA						
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q ₈ deg	RAD mLy	TMP °F	DP °F
0100	40	6	20	--	--	--	259	116	4	290	12	0	69	63
0200	13	6	30	--	--	--	256	108	5	275	10	0	67	62
0300	13	6	27	--	--	--	256	108	6	278	10	0	66	60
0400	16	6	20	--	--	--	241	108	5	283	10	0	66	58
0500	18	6	18	--	--	--	220	116	4	290	11	0	65	58
0600	16	6	15	--	--	--	216	108	4	285	7	30	66	59
0700	18	7	16	--	--	--	202	116	7	278	6	206	67	59
0800	29	6	13	--	--	--	202	116	6	270	5	508	70	60
0900	36	7	13	<.1	.5	1.7	191	108	8	270	6	803	73	63
1000	52	7	20	<.1	.7	1.7	212	116	9	260	7	1023	74	64
1100	68	9	18	<.1	.7	1.7	230	116	13	262	7	1117	74	65
1200	93	8	16	<.1	.7	.17	216	116	17	270	7	1285	76	65
1300	110	9	17	<.1	.7	1.7	202	108	16	270	6	1200	76	65
1400	113	8	19	<.1	.7	1.7	223	108	15	266	7	1276	78	66
1500	103	7	15	.2	.8	1.7	205	116	16	270	6	698	80	62
1600	100	7	15	<.1	.7	1.7	187	116	13	267	6	850	80	64
1700	108	7	20	<.1	.8	1.7	194	116	12	265	8	500	79	64
1800	130	7	17	<.1	.8	1.7	230	116	10	270	6	180	77	66
1900	115	7	29	<.1	.9	1.7	274	116	7	275	6	74	78	64
2000	150	6	22	<.1	.9	1.7	281	124	9	280	7	24	76	66
2100	150	6	23	.2	1.0	1.8	277	116	4	275	9	0	74	67
2200	130	6	22	.3	1.0	1.8	302	116	3	280	14	0	77	66
2300	116	6	24	.3	1.0	1.8	310	116	6	275	17	0	78	66
2400	90	8	25	--	--	--	320	124	CALM		12	0	77	68

TABLE 31. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 11, 1975

Time hr	GAS DATA							MET. DATA						
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q _E deg	RAD mLy	TMP °F	DP °F
0100	97	8	22	--	--	--	324	124	4	280	14	0	74	67
0200	75	8	19	--	--	--	331	124	3	280	10	0	73	67
0300	62	7	21	--	--	--	346	124	4	270	10	0	73	67
0400	50	7	18	--	--	--	324	124	4	283	5	0	71	67
0500	42	7	21	--	--	--	342	249	CALM	CALM	11	0	70	67
0600	18	7	27	--	--	--	382	240	CALM	CALM	10	27	69	66
0700	<5	13	34	--	--	--	367	>1300	CALM	CALM	9	189	71	67
0800	15	18	38	--	--	--	400	>1300	CALM	CALM	14	406	74	69
0900	25	13	28	--	--	--	281	257	5	275	9	422	75	68
1000	33	11	19	--	--	--	284	116	8	265	9	641	75	68
1100	60	10	20	.2	.9	1.8	304	135	11	265	7	1004	77	69
1200	73	9	30	.2	1.1	1.9	334	135	10	262	7	857	77	69
1300	100	9	26	.2	1.1	1.9	365	135	10	264	6	1400	79	70
1400	103	7	25	<.1	.9	1.8	327	135	10	262	6	1200	79	69
1500	94	7	25	<.1	.8	1.8	274	145	8	264	9	887	78	69
1600	91	8	20	<.1	.7	1.8	251	135	8	265	6	598	77	69
1700	86	7	26	<.1	.6	1.8	213	154	8	268	6	243	79	69
1800	73	7	40	<.1	.8	1.8	228	145	5	263	7	250	76	68
1900	83	7	28	<.1	.8	1.8	228	145	CALM	CALM	15	142	77	69
2000	80	7	30	<.1	.7	1.8	228	145	5	280	6	35	76	68
2100	79	7	30	<.1	.7	1.7	228	154	5	273	7	0	74	68
2200	71	8	15	<.1	.5	1.7	201	125	10	275	6	0	74	68
2300	60	9	14	<.1	.3	1.7	175	125	10	276	6	0	75	67
2400	55	9	10	<.1	.3	1.7	179	125	4	285	11	0	74	67

TABLE 32. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 12, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	☉ deg	RAD mLy	TMP °F	DP °F
0100	40	8	15	<.1	.3	1.7	182	125	5	285	9	0	72	67
0200	40	6	11	<.1	.4	1.7	217	135	5	285	7	0	72	67
0300	37	7	12	<.1	.4	1.7	220	125	3	280	8	0	72	65
0400	33	6	15	<.1	.4	1.7	194	231	CALM	CALM	10	0	69	62
0500	28	6	15	<.1	.3	1.7	190	145	CALM	CALM	11	0	68	62
0600	20	6	24	<.1	.3	1.7	209	443	CALM	CALM	18	0	67	61
0700	14	9	32	<.1	.5	1.7	243	896	CALM	CALM	8	162	68	62
0800	19	13	33	<.1	.8	1.7	350	569	CALM	CALM	22	439	74	63
0900	35	10	25	<.1	.7	1.7	255	251	CALM	CALM	12	714	80	65
1000	48	11	21	<.1	.4	1.7	217	193	CALM	CALM	8	1003	85	67
1100	54	9	16	<.1	.3	1.7	182	145	7	260	11	1173	83	66
1200	62	12	20	<.1	.4	1.7	175	125	9	255	9	1224	79	66
1300	84	11	18	<.1	.4	1.7	186	135	9	245	6	1368	79	68
1400	106	9	20	<.1	.6	1.7	346	135	14	262	7	1242	78	69
1500	110	8	15	<.1	.7	1.7	289	135	15	262	8	1218	78	68
1600	111	7	15	<.1	.5	1.6	319	145	18	266	6	785	80	78
1700	110	7	17	<.1	.5	1.6	232	145	14	263	6	674	79	68
1800	116	7	20	<.1	.6	1.6	217	145	11	264	7	366	77	68
1900	98	6	20	<.1	.7	1.7	247	145	5	275	11	137	76	68
2000	58	6	40	<.1	.9	1.7	308	145	3	250	12	23	75	69
2100	37	7	30	<.1	1.2	1.7	315	135	3	260	11	0	75	64
2200	29	6	25	<.1	.6	1.7	251	540	3	260	13	0	76	64
2300	20	7	31	<.1	.8	1.8	243	260	CALM	CALM	10	0	74	64
2400	15	7	36	<.1	.9	1.8	274	520	CALM	CALM	13	0	73	64

TABLE 33. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 13, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	☉ deg	RAD mLy	TMP °F	DP °F
0100	19	8	31	.2	.7	1.8	259	550	CALM		8	0	73	65
0200	<5	9	36	.2	.7	1.8	274	462	CALM		11	0	71	64
0300	<5	11	38	<.1	.7	1.8	266	752	CALM		12	0	70	65
0400	<5	10	33	<.1	.5	1.8	252	790	CALM		11	0	70	65
0500	14	9	27	<.1	.5	1.8	229	925	5	035	12	0	70	64
0600	23	10	18	<.1	.5	1.8	241	434	CALM		11	35	69	63
0700	16	11	23	<.1	.7	1.8	348	366	CALM		12	202	70	64
0800	14	12	28	<.1	.7	1.8	303	145	3	035	17	473	73	65
0900	25	10	13	<.1	.4	1.7	233	135	CALM		11	752	78	65
1000	35	15	23	<.1	.6	1.7	211	135	3	200	14	1014	79	66
1100	42	14	33	<.1	.9	1.8	233	151	5	240	5	1191	78	67
1200	66	12	29	<.1	.7	1.8	255	241	7	250	7	1335	78	68
1300	87	12	23	<.1	.7	1.7	218	183	6	248	4	1388	78	68
1400	80	10	20	<.1	.8	1.7	185	145	6	240	7	1353	80	67
1500	89	10	16	<.1	.6	1.7	174	155	7	233	8	1195	80	68
1600	76	10	12	<.1	.4	1.7	159	155	9	230	8	699	79	68
1700	81	8	10	<.1	.4	1.7	167	164	7	230	8	431	77	67
1800	73	8	12	<.1	.5	1.7	178	135	6	260	10	285	75	67
1900	74	7	14	<.1	.5	1.7	170	135	6	240	8	156	75	66
2000	82	7	10	<.1	.5	1.7	178	125	8	242	4	24	74	67
2100	114	7	12	<.1	.5	1.6	229	135	12	230	6	0	73	67
2200	117	8	8	<.1	.5	1.8	237	135	12	225	7	0	74	68
2300	120	6	8	<.1	.5	1.8	237	154	7	265	8	0	74	67
2400	116	7	6	<.1	.4	1.8	248	173	7	270	6	0	75	68

TABLE 34. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 14, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q _g deg	RAD mLy	TMP °F	DP °F
0100	80	7	8	<.1	.3	1.8	270	124	10	265	5	0	73	68
0200	16	6	40	.2	.8	1.8	418	154	10	270	5	0	72	67
0300	13	6	45	.2	.6	1.8	392	145	16	270	6	0	73	66
0400	19	6	27	<.1	.5	1.8	281	135	13	275	6	0	73	66
0500	25	8	24	<.1	.4	1.7	248	135	7	285	10	0	74	66
0600	16	7	26	<.1	.4	1.7	241	135	3	280	16	0	72	66
0700	23	7	20	<.1	.3	1.7	233	135	9	274	9	34	73	66
0800	28	7	20	<.1	.6	1.7	211	---	11	280	9	119	74	65
0900	30	10	20	<.1	.9	1.7	237	145	14	272	6	364	75	66
1000	30	12	26	<.1	.9	1.9	263	145	12	275	7	778	78	67
1100	38	14	29	<.1	1.0	1.9	248	145	13	268	6	1139	79	68
1200	60	10	18	<.1	1.1	1.8	289	145	9	270	12	1163	83	70
1300	73	11	22	<.1	1.2	1.7	307	145	17	264	9	1283	80	69
1400	90	9	23	<.1	1.2	1.7	237	145	16	265	7	1267	79	70
1500	116	9	16	<.1	1.2	1.7	200	135	18	270	6	1209	79	70
1600	110	9	14	<.1	1.0	1.7	167	135	17	273	6	857	80	69
1700	87	9	11	<.1	.9	1.7	159	135	16	273	6	708	80	69
1800	76	9	13	<.1	.8	1.7	181	135	13	273	8	469	78	68
1900	51	10	19	<.1	1.0	1.7	222	173	5	275	16	268	81	67
2000	32	8	27	<.1	1.2	1.7	207	154	CALM	CALM	10	36	80	61
2100	26	8	26	<.1	1.1	1.6	178	145	CALM	CALM	9	0	78	61
2200	32	7	17	<.1	.7	1.6	174	135	CALM	CALM	7	0	76	59
2300	31	6	14	<.1	.7	1.6	163	145	CALM	CALM	13	0	74	57
2400	31	7	10	<.1	.7	1.6	163	145	CALM	CALM	7	0	73	56

TABLE 35. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 15, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Ø _θ deg	RAD mLy	TMP °F	DP °F
0100	27	6	12	<.1	.7	1.6	162	124	3	040	11	0	73	55
0200	24	6	12	<.1	.7	1.6	166	169	3	045	10	0	71	56
0300	11	6	24	<.1	.7	1.6	162	258	5	038	15	0	70	56
0400	16	6	15	<.1	.7	1.6	162	196	4	039	19	0	68	56
0500	20	6	11	<.1	.7	1.6	173	143	4	028	16	0	67	56
0600	15	6	17	<.1	.7	1.6	180	124	5	024	17	31	66	56
0700	13	7	20	<.1	1.1	1.6	227	116	4	025	15	140	68	57
0800	16	10	19	<.1	1.2	1.6	252	116	7	025	18	241	69	57
0900	28	10	13	<.1	.9	1.6	198	116	9	030	14	801	74	59
1000	36	9	11	<.1	.7	1.6	169	116	8	036	16	1012	77	60
1100	41	7	8	<.1	.8	1.6	151	116	7	038	17	1242	80	59
1200	59	8	11	<.1	.9	1.6	158	116	6	230	11	1342	81	62
1300	66	10	14	<.1	.9	1.6	158	116	9	232	8	1445	79	65
1400	64	9	17	<.1	1.0	1.6	140	116	7	245	5	1360	79	65
1500	63	10	14	<.1	1.0	1.6	137	116	7	246	4	1204	79	66
1600	80	10	16	.4	.9	1.6	158	116	8	241	6	718	79	67
1700	77	10	15	.3	.9	1.6	169	116	7	247	5	669	77	67
1800	57	9	15	.3	.8	1.6	148	116	9	246	3	225	75	64
1900	56	8	17	<.1	.8	1.6	148	124	6	227	9	72	74	65
2000	46	6	14	<.1	.8	1.6	148	116	4	245	6	10	73	64
2100	50	7	10	<.1	.8	1.6	155	124	3	255	9	0	73	64
2200	53	6	7	<.1	.8	1.6	148	116	CALM	CALM	10	0	73	64
2300	45	7	11	<.1	.8	1.6	151	116	CALM	CALM	11	0	73	65
2400	45	6	8	<.1	.8	1.6	151	116	CALM	CALM	16	0	72	66

TABLE 36. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 16, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	☉ deg	RAD mLy	TMP °F	DP °F
0100	42	6	8	<.1	.8	1.6	166	116	CALM		16	0	72	66
0200	33	6	9	<.1	1.0	1.6	180	116	CALM		13	0	72	66
0300	12	6	35	<.1	1.2	1.6	194	134	3	070	20	0	72	66
0400	18	6	30	<.1	1.0	1.6	184	116	3	060	18	0	71	66
0500	34	6	16	<.1	.9	1.6	173	116	3	068	15	0	71	65
0600	27	6	19	<.1	1.0	1.6	173	116	3	090	13	0	70	66
0700	22	7	21	.2	1.2	1.6	191	116	3	040	9	42	71	66
0800	25	7	23	.2	1.6	1.7	234	124	3	045	8	126	71	67
0900	30	7	15	.2	1.2	1.7	169	124	3	050	15	193	72	68
1000	37	7	20	<.1	1.2	1.7	166	134	CALM		10	138	73	67
1100	40	9	19	<.1	1.2	1.6	169	124	7	245	4	317	73	68
1200	44	9	17	<.1	1.2	1.6	176	124	10	272	7	259	70	63
1300	54	7	8	<.1	.7	1.6	144	124	14	245	4	190	68	62
1400	60	7	5	<.1	.7	1.6	140	124	8	210	10	256	67	62
1500	54	8	4	<.1	.8	1.6	137	124	5	120	9	237	68	62
1600	51	8	4	<.1	.8	1.6	140	124	4	070	21	222	69	62
1700	48	8	6	<.1	.8	1.6	140	124	4	067	21	181	69	62
1800	47	8	9	<.1	.8	1.6	140	124	3	060	23	138	69	63
1900	45	7	4	<.1	.8	1.6	144	124	3	045	22	50	67	61
2000	46	7	5	<.1	.8	1.6	144	124	4	115	17	0	68	62
2100	49	7	2	<.1	.8	1.6	137	124	5	153	9	0	68	63
2200	58	6	4	<.1	.7	1.6	137	124	11	153	14	0	68	62
2300	63	7	3	<.1	.6	1.6	144	124	7	155	17	0	67	60
2400	60	6	3	<.1	.7	1.6	144	124	8	150	16	0	67	60

TABLE 37. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 17, 1975

Time hr	GAS DATA							MET. DATA						
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	☉ deg	RAD mLy	TMP °F	DP °F
0100	52	6	2	.3	.6	1.6	140	124	5	080	9	0	66	60
0200	44	7	4	.3	.6	1.6	140	124	5	038	15	0	66	61
0300	38	6	3	.3	.6	1.6	137	124	4	045	15	0	66	61
0400	36	6	4	.3	.6	1.6	140	124	5	036	15	0	65	61
0500	40	6	5	<.1	.6	1.6	140	124	6	045	15	0	65	60
0600	39	5	4	.3	.6	1.6	140	124	5	053	14	0	65	59
0700	35	6	5	<.1	.6	1.6	140	124	5	042	15	65	65	59
0800	32	6	7	<.1	.7	1.6	148	124	5	030	14	134	66	60
0900	38	7	5	<.1	.7	1.6	144	124	4	040	19	267	68	61
1000	38	8	8	<.1	.7	1.6	155	124	4	070	22	295	69	62
1100	51	8	5	<.1	.7	1.6	144	135	6	087	7	289	70	63
1200	55	8	3	.2	.7	1.6	140	135	4	088	13	309	70	63
1300	53	8	6	.2	.7	1.6	140	135	3	145	10	259	71	63
1400	50	7	5	.2	.8	1.6	137	135	7	155	14	593	72	63
1500	50	7	9	.2	.9	1.6	140	135	CALM					63
1600	42	7	8	.2	1.0	1.6	144	135	5	240	9	295	72	63
1700	41	7	12	.2	.9	1.6	144	135	9	260	5	531	73	63
1800	42	7	10	<.1	.9	1.6	144	135	9	260	6	142	71	63
1900	37	6	10	<.1	1.0	1.6	151	135	8	265	6	186	71	64
2000	35	6	18	<.1	1.3	1.6	182	135	6	270	6	95	71	64
2100	18	6	24	<.1	1.6	1.6	193	135	3	270	6	0	71	65
2200	5	9	40	<.1	1.6	1.6	193	135	6	285	12	0	70	65
2300	20	6	27	.2	1.4	1.6	231	145	4	282	10	0	71	65
2400	18	6	25	.2	1.4	1.6	231	135	3	268	17	0	70	64
									CALM					64

TABLE 38. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 18, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q _E deg	RAD mLy	TMP °F	DP °F
0100	20	6	19	<.1	1.2	1.6	207	135	4	275	20	0	70	63
0200	31	6	13	<.1	1.0	1.7	193	145	8	284	8	0	70	63
0300	34	6	9	<.1	.9	1.6	186	135	6	280	10	0	70	63
0400	34	6	8	<.1	.9	1.6	186	135	6	286	10	0	70	62
0500	32	7	8	--	--	--	189	164	3	265	20	0	68	62
0600	25	6	15	--	--	--	238	145	5	278	13	0	69	63
0700	19	7	31	--	--	--	340	145	6	285	9	36	70	64
0800	23	7	23	--	--	--	350	164	3	265	20	80	70	65
0900	31	8	14	--	--	--	298	145	4	270	18	470	72	65
1000	43	8	12	.2	1.0	1.6	270	154	8	265	8	839	75	65
1100	57	6	15	.2	1.2	1.6	270	154	13	264	7	844	74	66
1200	80	7	17	.2	1.4	1.6	280	164	16	260	7	1198	75	66
1300	100	7	15	.2	1.6	1.6	378	164	16	262	7	1198	75	67
1400	124	7	17	.2	1.6	1.6	417	164	19	260	6	1270	76	67
1500	136	6	20	.2	1.7	1.6	368	173	17	265	5	785	76	68
1600	138	6	17	.2	1.6	1.6	340	164	16	275	7	650	78	68
1700	141	6	15	.2	1.4	1.6	291	154	15	270	5	540	77	68
1800	132	6	16	<.1	1.2	1.6	280	154	12	268	5	373	77	68
1900	118	6	11	<.1	1.2	1.6	228	154	12	270	6	126	75	67
2000	68	6	21	<.1	1.0	1.6	224	145	8	280	12	0	76	65
2100	40	6	25	<.1	.9	1.6	210	279	CALM	CALM	14	0	75	63
2200	35	5	20	--	--	--	175	299	CALM	CALM	7	0	73	57
2300	33	5	21	--	--	--	172	501	CALM	CALM	7	0	71	53
2400	34	5	20	--	--	--	179	492	CALM	CALM	7	0	69	52

TABLE 39. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 19, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q _g deg	RAD mLy	TMP °F	DP °F
0100	40	5	12	--	--	--	172	347	3	275	12	0	68	49
0200	34	5	15	--	--	--	165	318	CALM		10	0	66	46
0300	30	5	17	--	--	--	161	501	CALM		10	0	64	47
0400	35	5	11	--	--	--	165	241	3	265	18	0	63	49
0500	24	5	21	--	--	--	165	501	CALM		9	0	62	48
0600	29	6	13	--	--	--	168	386	CALM		21	0	60	48
0700	31	7	13	--	--	--	189	145	4	275	16	218	62	51
0800	31	10	16	--	--	--	238	251	3	265	15	519	65	51
0900	27	11	19	--	--	--	231	164	3	249	12	802	69	52
1000	30	9	14	--	--	--	231	231	3	250	12	1049	73	52
1100	37	7	10	--	--	--	228	193	3	270	7	1243	76	52
1200	45	6	8	--	--	--	151	145	6	269	20	1372	77	47
1300	56	6	9	--	--	--	166	145	5	270	24	1419	78	48
1400	67	8	13	--	--	--	157	133	13	260	8	1361	77	54
1500	68	7	8	--	--	--	147	124	23	269	6	1221	75	55
1600	73	6	8	--	--	--	157	149	22	267	6	1000	74	56
1700	76	7	14	--	--	--	160	124	22	269	6	749	74	57
1800	80	10	8	--	--	--	160	116	16	260	7	420	74	57
1900	68	14	9	--	--	--	160	116	8	290	5	120	73	57
2000	35	5	27	--	--	--	192	124	3	270	19	0	70	53
2100	19	5	38	--	--	--	250	182	CALM		14	0	69	51
2200	< 5	28	60	--	--	--	301	149	3	050	6	0	66	54
2300	< 5	32	60	--	--	--	266	174	3	060	4	0	65	53
2400	15	6	32	--	--	--	182	224	3	040	17	0	66	51

TABLE 40. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 20, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	☉ deg	RAD mLy	TMP °F	DP °F
0100	16	6	30	--	--	--	259	199	3	030	6	0	65	51
0200	<5	45	58	--	--	--	163	182	4	030	6	0	64	54
0300	<5	52	60	--	--	--	173	362	3	030	9	0	64	54
0400	<5	36	49	--	--	--	141	506	3	035	14	0	63	54
0500	5	7	30	--	--	--	112	240	3	036	12	0	61	52
0600	12	6	31	--	--	--	106	141	CALM	14	11	0	63	51
0700	10	12	33	--	--	--	131	149	4	035	11	198	63	52
0800	24	10	28	--	--	--	125	133	5	035	7	432	67	52
0900	23	16	32	--	--	--	118	149	4	030	12	912	70	52
1000	28	14	26	--	--	--	131	124	3	036	14	1047	73	50
1100	42	7	16	--	--	--	195	158	CALM	7	7	1224	77	51
1200	51	7	11	--	--	--	166	141	7	265	17	1375	79	53
1300	54	7	10	--	--	--	157	133	CALM	8	8	1465	77	53
1400	50	6	9	--	--	--	154	141	3	300	8	1155	79	48
1500	59	7	9	--	--	--	157	141	4	270	10	1145	79	48
1600	64	7	10	--	--	--	147	124	6	270	19	595	79	49
1700	59	6	9	--	--	--	157	166	3	280	8	757	80	48
1800	57	6	11	--	--	--	160	224	3	265	11	478	78	47
1900	47	6	13	--	--	--	173	149	4	270	20	170	75	47
2000	38	6	27	--	--	--	195	124	3	270	14	0	70	49
2100	27	5	37	--	--	--	221	348	CALM	10	10	0	67	49
2200	23	5	36	--	--	--	227	572	CALM	12	12	0	67	48
2300	<5	35	68	--	--	--	304	249	CALM	15	15	0	63	52
2400	<5	45	65	--	--	--	358	224	3	052	10	0	61	52

TABLE 41. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 21, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q ₆ deg	RAD mLy	TMP °F	DP °F
0100	<5	50	63	--	--	--	336	157	CALM		12	0	61	53
0200	<5	19	46	--	--	--	243	>500	3	050	11	0	60	49
0300	<5	20	44	--	--	--	234	>900	CALM		9	0	61	51
0400	15	7	28	--	--	--	202	539	4	042	13	0	61	49
0500	<5	18	38	--	--	--	221	672	3	030	13	0	57	48
0600	5	6	27	--	--	--	224	299	CALM		7	0	56	47
0700	<5	20	32	--	--	--	237	639	CALM		13	176	59	49
0800	<5	31	38	--	--	--	282	>900	3	270	15	442	62	51
0900	13	28	45	--	--	--	339	473	CALM		10	761	66	51
1000	27	18	36	--	--	--	275	282	3	220	19	1021	73	53
1100	36	16	41	--	--	--	131	265	5	235	7	1200	73	55
1200	52	10	24	--	--	--	198	149	8	242	5	1292	73	56
1300	54	7	12	--	--	--	154	124	8	248	6	1361	74	54
1400	80	6	13	--	--	--	182	124	10	245	4	997	75	58
1500	105	6	13	--	--	--	179	124	12	255	6	974	75	58
1600	77	6	8	--	--	--	154	124	14	263	6	640	74	54
1700	67	6	16	--	--	--	144	124	12	245	3	271	73	57
1800	75	5	20	--	--	--	163	124	12	250	6	170	73	57
1900	90	7	25	--	--	--	218	141	9	245	5	62	73	61
2000	105	6	6	--	--	--	192	141	19	245	3	0	72	62
2100	96	5	5	--	--	--	179	133	20	245	4	0	72	62
2200	95	5	5	--	--	--	176	133	20	243	3	0	72	62
2300	91	3	5	--	--	--	176	124	22	247	6	0	71	62
2400	75	3	3	--	--	--	176	133	22	252	6	0	72	63

TABLE 42. SURFACE DATA COLLECTED AT GROTON, CT ON AUGUST 22, 1975

Time hr	GAS DATA						MET. DATA							
	O ₃ ppb	NO ppb	NO ₂ ppb	NMTHC ppmC	CO ppm	CH ₄ ppm	CFCI ₃ ppt	CCl ₄ ppt	WS mph	WD deg	Q _E deg	RAD mLy	TMP °F	DP °F
0100	69	4	3	--	--	--	173	124	19	252	6	0	72	64
0200	63	3	3	--	--	--	166	124	22	251	5	0	72	64
0300	56	3	2	--	--	--	160	124	23	254	7	0	72	65
0400	45	3	5	--	--	--	154	124	23	255	6	0	73	67
0500	40	4	4	--	--	--	150	124	20	260	6	0	73	67
0600	36	3	5	--	--	--	160	133	18	270	7	0	73	68
0700	25	5	12	--	--	--	182	141	16	266	5	0	73	68
0800	23	5	15	--	--	--	198	158	16	264	5	190	72	68
0900	20	6	20	--	--	--	253	158	18	260	6	109	73	68
1000	20	6	20	--	--	--	291	141	13	266	5	521	74	68
1100	32	8	22	--	--	--	342	141	11	275	8	669	78	70

LIGHT HYDROCARBON DATA AT GROUND LEVEL

This section provides a listing of individual light hydrocarbon concentrations measured at the two ground sites. The trailer site refers to samples collected near our mobile laboratory at Avery Point, while the inland site was to the northwest of Groton near the Devils Hopyard State Park (see Figure 1).

NOTES ON TABLES:

All light hydrocarbon concentrations are reported as $\mu\text{g}/\text{m}^3$.

* = less than $0.5 \mu\text{g}/\text{m}^3$ (0.8 ppb C)

Blank space = no data, either because the value obtained was questionable or the measurement was not made.

Times are Eastern Daylight Time.

TABLE 43. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 15, 1975.

	G-1	G-2	G-3	G-4
Ethane	3.5	4.0	4.0	3.0
Ethylene				
Acetylene	1.0	2.0	*	*
Propane	2.0	2.0	1.5	1.5
Propene	3.0	3.5	1.5	1.5
i-Butane	1.0	*	1.0	*
n-Butane	1.0	2.0	2.0	1.0
neo-Pentane				
1-Butene	.5	1.0	.5	*
i-Butene	.5	1.0	*	*
t-2-Butene	*	*	*	*
Propyne	*	*	*	*
c-2-Butene	*	*	*	*
i-Pentane	1.0	3.0	5.0	*
n-Pentane	.5	2.0	3.0	*
Cyclopentane	*	1.0	*	*
1-Pentene	*	.5	*	*
i-Hexane	*	1.5	2.0	*
3-Methylpentane	.5	1.0	*	1.0
n-Hexane	*	1.0	*	*
Cyclohexane	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	15	26	21	8

G-1	Trailer Site	6:00-8:00 a.m.
G-2	Trailer Site	12:00-1:00 p.m.
G-3	Trailer Site	3:20 p.m.
G-4	Trailer Site	10:30 p.m.

TABLE 44. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED AT GROUND SITES ON JULY 16, 1975.

	G-1	G-2	G-3	G-4	G-5
Ethane	2.0	3.0	3.0	3.5	4.0
Ethylene	7.5	7.0	7.5		
Acetylene	*	.5	*	*	*
Propane	1.5	1.0	1.0	1.5	1.5
Propene	*	*	*	1.5	1.5
i-Butane	1.0	1.0	.5	.5	2.0
n-Butane	1.0	1.0	1.5	1.0	6.0
neo-Pentane	*	*	.5	*	
1-Butene	*	*	*	*	*
i-Butene	*	*	*	*	*
t-2-Butene	*	*	*	*	*
Propyne	*	*	*	*	*
c-2-Butene	*	*	*	*	*
i-Pentane	1.0	1.5	2.0	1.0	4.0
n-Pentane	.5	1.0	1.0	*	2.0
Cyclopentane	*	*	*	*	1.0
1-Pentene	*	*	*	*	*
i-Hexane	*	*	.5	*	*
3-Methylpentane	*	*	.5	1.0	*
n-Hexane	*	*	.5	*	*
Cyclohexane	*	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	15	16	19	10	22

G-1	Trailer Site	6:00-8:00 a.m.
G-2	Trailer Site	11:00 a.m.
G-3	Trailer Site	2:00 p.m.
G-4	Trailer Site	10:30 p.m.
G-5	Inland Site	6:00-8:00 a.m.

TABLE 45. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 17, 1975.

	G-1	G-2	G-3
Ethane	4.5	2.5	2.5
Ethylene	*	6.0	6.0
Acetylene	*	*	2.0
Propane	1.5	1.5	3.0
Propene	.5	*	4.5
i-Butane	.5	.5	1.0
n-Butane	1.0	1.0	2.5
neo-Pentane	1.0	*	.5
1-Butene	*	*	
i-Butene	*	*	.5
t-2-Butene	*	*	*
Propyne	*	*	*
c-2-Butene	*	*	*
i-Pentane	1.5	1.5	2.5
n-Pentane	1.0	1.0	2.0
Cyclopentane	*	*	.5
1-Pentene	*	*	*
i-Hexane	.5	*	*
3-Methylpentane	*	*	*
n-Hexane	*	*	*
Cyclohexane	*	*	*
Total $\mu\text{g}/\text{m}^3$	12	14	28

G-1	Trailer Site	6:00-8:00 a.m.
G-2	Trailer Site	12:00 noon
G-3	Inland Site	3:00-5:00 p.m.

TABLE 46. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 18, 1975.

	G-1	G-2	G-3	G-4	G-5	G-6	G-7	G-8	G-9
Ethane	3.5	4.0	6.5	7.0	9.5	4.0	2.0	5.5	4.0
Ethylene	4.5	7.5	3.0	3.5	4.5	1.5	3.0	7.0	3.0
Acetylene	*	1.0	2.0	3.0	4.0	1.0	2.0	2.5	2.0
Propane	2.5	4.0	9.0	7.5	10.5	2.0	3.0	6.0	3.5
Propene	*	3.0	2.0	1.0	1.5	.5	2.0	6.5	1.5
i-Butane	1.0	2.0	8.0	7.0	10.5	1.0	3.0	5.0	2.5
n-Butane	1.5	3.5	11.0	11.5	17.0	3.0	5.5	9.5	5.0
neo-Pentane	*	*	*	1.0	*	*	*	2.5	*
1-Butene	*	*	*	.5	*	*	*	1.0	*
i-Butene	*	1.0	*	*	.5	*	1.0	*	*
t-2-Butene	*	*	*	*	*	*	*	.5	*
Propyne	*	*	*	*	*	*	*	*	*
c-2-Butene	*	*	*	*	*	*	*	*	*
i-Pentane	1.0	4.0	10.0	11.0	16.5	4.0	5.5	10.0	4.5
n-Pentane	1.0	3.0	6.0	5.5	9.0	2.5	3.0	4.5	2.5
Cyclopentane	*	*	.5	.5	1.0	*	*	1.0	*
1-Pentene	*	*	*	*	*	*	*	.5	*
i-Hexane	.5	1.5	2.5	3.0	*	*	1.5	3.0	1.5
3-Methylpentane	1.0	1.0	2.0	2.0	*	2.0	*	3.0	3.5
n-Hexane	*	1.0	2.5	*	*	*	*	1.5	*
Cyclohexane	*	*	*	2.5	*	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	16	37	55	67	85	22	32	70	34

G-1	Trailer Site	12:45 a.m.
G-2	Trailer Site	6:00-8:00 a.m.
G-3	Trailer Site	11:00 a.m.
G-4	Trailer Site	12:00 noon
G-5	Trailer Site	1:00 p.m.
G-6	Trailer Site	9:30 p.m.
G-7	Inland Site	1:00-3:00 a.m.
G-8	Inland Site	6:00-8:00 a.m.
G-9	Inland Site	2:00-5:00 p.m.

TABLE 47. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 19, 1975.

	G-1	G-2	G-3	G-4	G-5	G-6
Ethane	3.5	4.0	4.0	4.0	3.0	4.5
Ethylene	1.5	2.5	2.0	.5	3.5	4.5
Acetylene	1.0	1.5	1.0	*	2.0	1.5
Propane	2.0	2.0	2.0	2.0	3.5	3.5
Propene	1.0	1.0	1.0	*	2.0	3.5
i-Butane	1.0	2.0	1.0	.5	2.5	2.0
n-Butane	3.0	4.0	2.5	2.0	4.5	4.0
neo-Pentane	*	.5	*	.5	*	*
1-Butene	*	*	*	*	*	*
i-Butene	*	*	*	*	.5	2.5
t-2-Butene	*	*	*	*	*	*
Propyne	*	*	*	*	*	*
c-2-Butene	*	*	*	*	*	*
i-Pentane	4.0	5.5	3.0	1.0	5.0	4.0
n-Pentane	2.5	3.0	2.0	.5	3.0	2.5
Cyclopentane	*	*	*	*	*	*
1-Pentene	*	*	*	*	*	*
i-Hexane	*	2.0	1.5	*	1.5	1.0
3-Methylpentane	*	1.5	*	*	1.0	*
n-Hexane	1.0	2.0	*	*	*	*
Cyclohexane	*	*	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	21	32	20	11	32	34

G-1	Trailer Site	6:00-9:00 a.m.
G-2	Trailer Site	11:00-2:00 p.m.
G-3	Trailer Site	4:00-7:00 p.m.
G-4	Trailer Site	10:00-12:00 midnight
G-5	Inland Site	1:00-4:00 a.m.
G-6	Inland Site	2:00-5:00 a.m.

TABLE 48. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 20, 1975.

	G-1	G-2	G-3	G-4	G-5
Ethane	4.5	4.0	3.5	4.0	4.0
Ethylene	1.5	2.0	1.0	2.0	2.5
Acetylene	*	1.5	.5	1.0	1.0
Propane	2.5	2.5	1.5	3.0	3.5
Propene	3.0	.5	*	1.0	2.5
i-Butane	1.5	1.5	*	2.0	2.5
n-Butane	1.5	3.0	1.0	3.5	4.0
neo-Pentane	*	*	*	*	*
i-Butene	*	*	*	*	*
i-Butene	*	*	*	1.0	1.0
t-2-Butene	*	*	*	*	*
Propyne	*	*	*	*	*
c-2-Butene	*	*	*	*	*
i-Pentane	2.0	4.0	1.5	3.5	4.0
n-Pentane	1.5	2.5	1.5	2.0	2.5
Cyclopentane	*	*	*	*	*
1-Pentene	*	*	*	*	*
i-Hexane	1.0	1.5	*	1.0	1.0
3-Methylpentane	*	1.0	*	*	2.5
n-Hexane	*	1.0	*	*	*
Cyclohexane	*	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	19	25	11	24	31

G-1	Trailer Site	6:00-9:00 a.m.
G-2	Trailer Site	11:00-2:00 p.m.
G-3	Trailer Site	5:00-8:00 p.m.
G-4	Inland Site	1:00-4:00 a.m.
G-5	Inland Site	6:00-9:00 a.m.

TABLE 49 . HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 21, 1975.

	G-1	G-2	G-3	G-4
Ethane	3.0	3.5	6.0	4.5
Ethylene	1.0	2.5	1.5	1.5
Acetylene	*	2.0	*	2.0
Propane	2.5	4.0	3.0	3.0
Propene	*	1.0	*	*
i-Butane	1.0	3.0	*	2.0
n-Butane	2.0	5.0	5.5	4.0
neo-Pentane	*	*	1.0	*
1-Butene	*	*	*	*
i-Butene	*	*	*	*
t-2-Butene	*	*	*	*
Propyne	*	*	*	*
c-2-Butene	*	*	*	*
i-Pentane	2.0	5.5	6.0	4.0
n-Pentane	1.5	3.5	3.0	2.5
Cyclopentane	*	*	*	*
1-Pentene	*	*	*	*
i-Hexane	*	1.0	2.0	*
3-Methylpentane	*	*	.5	*
n-Hexane	*	*	*	*
Cyclohexane	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	13	31	29	24

G-1	Trailer Site	6:00-8:00 a.m.
G-2	Trailer Site	11:00-2:00 p.m.
G-3	Trailer Site	5:00-8:00 p.m.
G-4	Inland Site	2:00-5:00 p.m.

TABLE 50. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 22, 1975.

	G-1	G-2	G-3	G-4
Ethane	5.5	4.5	3.0	4.5
Ethylene	5.0	3.0	5.0	2.0
Acetylene	3.0	1.5	7.5	1.0
Propane	5.5	4.0	5.0	3.0
Propene	1.5	2.0	2.5	1.0
i-Butane	4.5	2.0	3.5	1.5
n-Butane	8.5	5.5	7.0	3.0
neo-Pentane	*	*		
1-Butene	*	*		
i-Butene	1.0	*	1.0	*
t-2-Butene	*	*	*	*
Propyne	*	*	*	*
c-2-Butene	*	*	*	*
i-Pentane	10.0	9.0	7.0	3.0
n-Pentane	6.5	5.0	4.5	1.5
Cyclopentane	.5	*	*	*
1-Pentene	*	*	*	*
i-Hexane	1.5	3.0	*	1.0
3-Methylpentane	2.5	3.0	1.0	*
n-Hexane	*	2.5	*	*
Cyclohexane	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	56	45	48	22

G-1	Trailer Site	6:00-9:00 a.m.
G-2	Trailer Site	5:00-8:00 p.m.
G-3	Inland Site	1:00-4:00 a.m.
G-4	Inland Site	6:00-9:00 a.m.

TABLE 51. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 23, 1975.

	G-1	G-2	G-3	G-4	G-5
Ethane	5.5	5.0	7.5	5.0	4.5
Ethylene	4.0	2.5		5.0	3.0
Acetylene	1.5	1.5	2.0	*	1.5
Propane	6.0	3.5	5.5	6.0	3.5
Propene	2.5	.5	1.0	3.5	1.0
i-Butane	3.0	2.5	*	*	2.0
n-Butane	7.0	6.5	6.5	5.0	4.0
neo-Pentane	*	1.0	1.0	2.0	*
1-Butene	*	*	*	*	*
i-Butene	*	*	*	*	*
t-2-Butene	*	*	*	1.0	*
Propyne	*	*	*	*	*
c-2-Butene	*	*	*	*	*
i-Pentane	9.0	7.5	6.5	4.0	5.0
n-Pentane	5.0	4.0	3.5	4.5	4.0
Cyclopentane	*	*	*	1.0	*
1-Pentene	*	*	*	*	*
i-Hexane	3.0	2.5	2.0	1.5	2.0
3-Methylpentane	3.0	2.0	*	*	6.0
n-Hexane	2.5	*	*	*	*
Cyclohexane	*	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	52	39	36	39	37

G-1	Trailer Site	6:00-9:00 a.m.
G-2	Trailer Site	11:00-2:00 p.m.
G-3	Trailer Site	5:00-8:00 p.m.
G-4	Inland Site	1:00-4:00 a.m.
G-5	Inland Site	6:00-9:00 a.m.

TABLE 52. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 24, 1975.

	G-1	G-2	G-3	G-4
Ethane	4.0	5.5	5.0	5.5
Ethylene	4.0			1.5
Acetylene	1.0	1.5	.5	1.0
Propane	3.0	3.0	2.0	3.0
Propene	2.5	1.0	*	*
i-Butane	1.5	2.0	.5	1.0
n-Butane	3.5	4.0	1.5	2.0
neo-Pentane	*	*	*	*
1-Butene	*	*	*	*
i-Butene	*	*	.5	*
t-2-Butene	*	*	*	*
Propyne	*	*	*	*
c-2-Butene	*	*	*	*
i-Pentane	2.5	4.5	1.5	2.0
n-Pentane	2.0	2.5	1.5	1.0
Cyclopentane	*	*	*	*
1-Pentene	*	*	*	*
i-Hexane	*	2.5	*	*
3-Methylpentane	*	1.5	1.5	
n-Hexane	.5	1.5	*	*
Cyclohexane	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	25	30	15	17

G-1	Trailer Site	6:00-9:00 a.m.
G-2	Trailer Site	11:00-2:00 p.m.
G-3	Trailer Site	5:00-8:00 p.m.
G-4	Inland Site	5:00-8:00 p.m.

TABLE 53. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 25, 1975.

	G-1	G-2	G-3	G-4	G-5
Ethane	6.5	4.5	5.0	4.0	4.5
Ethylene	5.0	2.0	4.5	4.0	2.0
Acetylene	*	1.0	1.5	2.5	*
Propane	4.0	3.0	4.0	3.0	2.5
Propene	2.5	*	1.0	2.0	1.0
i-Butane	1.0	1.0	2.0	1.5	1.0
n-Butane	2.0	3.0	4.0	2.5	2.0
neo-Pentane	*	*	*	*	*
1-Butene	*	*	*	*	*
i-Butene	*	*	1.0	*	*
t-2-Butene	*	*	*	*	*
Propyne	*	*	*	*	*
c-2-Butene	*	*	*	*	*
i-Pentane	2.0	3.0	4.0	3.0	2.0
n-Pentane	2.5	2.0	2.5	2.0	1.5
Cyclopentane	*	*	*	*	*
1-Pentene	*	*	*	*	*
i-Hexane	*	1.5	*	*	*
3-Methylpentane	*	*	*	*	*
n-Hexane	*	*	*	*	*
Cyclohexane	*	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	26	21	30	25	17

G-1	Trailer Site	6:00-9:00 a.m.
G-2	Trailer Site	11:00-2:00 p.m.
G-3	Trailer Site	5:00-8:00 p.m.
G-4	Inland Site	1:00-4:00 a.m.
G-5	Inland Site	6:00-9:00 a.m.

TABLE 54. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 26, 1975.

	G-1	G-2	G-3
Ethane	5.0	4.0	5.0
Ethylene	2.0	1.5	1.5
Acetylene	.5	*	1.0
Propane	3.5	2.5	3.0
Propene	1.0	*	*
i-Butane	1.0	1.0	1.0
n-Butane	2.0	2.0	2.5
neo-Pentane	*	*	*
1-Butene	*	*	*
i-Butene	*	*	*
t-2-Butene	*	*	*
Propyne	*	*	*
c-2-Butene	*	*	*
i-Pentane	2.5	2.5	3.0
n-Pentane	1.5	2.0	2.0
Cyclopentane	*	*	*
1-Pentene	*	*	*
i-Hexane	1.0	*	*
3-Methylpentane	.5	*	*
n-Hexane	*	*	*
Cyclohexane	*	*	*
Total $\mu\text{g}/\text{m}^3$	21	16	19

G-1	Trailer Site	6:00-9:00 a.m.
G-2	Trailer Site	11:00-2:00 p.m.
G-3	Trailer Site	5:00-8:00 p.m.

TABLE 55. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED AT GROUND SITES ON JULY 27, 1975.

	G-1	G-2	G-3	G-4
Ethane	4.5	4.0	4.0	4.5
Ethylene	4.0	1.5	2.0	1.5
Acetylene	2.5	*	1.0	1.0
Propane	9.5	1.5	3.0	2.5
Propene	2.5	*	1.5	1.0
i-Butane	2.5	*	1.5	1.0
n-Butane	5.0	1.5	3.0	2.0
neo-Pentane	*	1.0	*	*
1-Butene	*	*	*	*
i-Butene	.5	*	1.5	*
t-2-Butene	*	*	*	*
Propyne	*	*	*	*
c-2-Butene	*	*	*	*
i-Pentane	6.0	1.5	3.0	3.0
n-Pentane	3.5	1.0	2.0	2.0
Cyclopentane	1.5	*	*	*
1-Pentene	*	*	*	*
i-Hexane	*	*	*	*
3-Methylpentane	*	2.5	*	*
n-Hexane	*	*	1.0	*
Cyclohexane	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	42	15	24	19

G-1	Trailer Site	6:00-9:00 a.m.
G-2	Inland Site	11:30 a.m.
G-3	Inland Site	2:00-5:00 p.m.
G-4	Trailer Site	5:00-8:00 p.m.

TABLE 56 . HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 28, 1975.

	G-1	G-2	G-3	G-4	G-5
Ethane	4.0	4.5	5.5	8.0	7.0
Ethylene	4.0	1.5	2.0	3.5	1.5
Acetylene	3.5	3.0	1.5	3.5	2.0
Propane	4.0	2.0	3.5	7.5	5.5
Propene	3.5	1.0	*	1.0	*
i-Butane	1.5	1.5	*	*	3.0
n-Butane	3.0	3.0	4.0	12.5	6.0
neo-Pentane	*	*	*	*	*
1-Butene	*	*	*	*	*
i-Butene	1.5	.5	1.0	1.0	1.0
t-2-Butene	*	*	*	*	*
Propyne	*	*	*	*	*
c-2-Butene	*	*	*	*	*
i-Pentane	3.5	3.0	3.5	11.0	5.0
n-Pentane	3.5	1.5	2.0	5.0	2.5
Cyclopentane	*	*	*	*	*
1-Pentene	*	*	*	*	*
i-Hexane	*	1.0	1.0	3.0	1.5
3-Methylpentane	.5	1.5	*	1.5	1.0
n-Hexane	1.0	*	*	*	*
Cyclohexane	*	*	*	*	1.0
Total $\mu\text{g}/\text{m}^3$	34	24	24	58	37

G-1	Inland Site	1:00-4:00 a.m.
G-2	Inland Site	6:00-9:00 a.m.
G-3	Trailer Site	6:00-9:00-a.m.
G-4	Trailer Site	12:00-3:00 p.m.
G-5	Trailer Site	5:00-8:00 p.m.

TABLE 57. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 29, 1975.

	G-1	G-2
Ethane	6.0	4.0
Ethylene	5.5	1.5
Acetylene	3.5	1.5
Propane	10.0	3.0
Propene	2.0	*
i-Butane	5.5	1.0
n-Butane	12.0	3.0
neo-Pentane	.5	*
1-Butene	*	*
i-Butene	.5	.5
t-2-Butene	*	*
Propyne	*	*
c-2-Butene	*	*
i-Pentane	13.0	3.0
n-Pentane	7.5	1.5
Cyclopentane	*	*
1-Pentene	*	*
i-Hexane	4.5	1.0
3-Methylpentane	2.5	1.5
n-Hexane	*	*
Cyclohexane	*	*
Total $\mu\text{g}/\text{m}^3$	73	22

G-1 Trailer Site 6:00-9:00 a.m.
G-2 Trailer Site 12:00-3:00 p.m.

TABLE 58. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 30, 1975.

	G-1	G-2	G-3	G-4	G-5	G-6
Ethane	5.5	5.0	6.5	5.0	4.0	4.0
Ethylene	6.0	3.0	9.5	6.5	3.0	4.0
Acetylene	1.0	2.0	6.5	2.0	1.5	1.5
Propane	4.5	4.0	13.0	4.5	3.0	3.0
Propene	2.0	1.5	4.0	1.5	1.0	2.0
i-Butane	2.0	2.0	9.0	2.5	3.0	2.0
n-Butane	4.5	4.5	19.0	6.0	3.5	7.5
neo-Pentane	*	*	*	*	*	*
1-Butene	*	*	1.5	*	*	*
i-Butene	2.0	.5	2.0	1.0	.5	*
t-2-Butene	*	*	2.0	*	*	*
Propyne	*	*	*	*	*	*
c-2-Butene	*	*	*	*	*	*
i-Pentane	4.5	5.0	21.0	6.5	4.5	5.0
n-Pentane	3.5	3.5	11.0	4.0	2.5	2.0
Cyclopentane	*	*	1.5	*	*	*
1-Pentene	*	*	*	*	*	*
i-Hexane	1.5	*	6.5	1.5	*	1.0
3-Methylpentane	1.0	*	3.5	*	*	*
n-Hexane	2.0	*	*	2.0	*	2.0
Cyclohexane	*	*	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	40	31	117	43	27	34

G-1	Inland Site	1:00-4:00 a.m.
G-2	Inland Site	6:00-9:00 a.m.
G-3	Trailer Site	8:00-10:00 a.m.
G-4	Trailer Site	12:00-2:00 p.m.
G-5	Trailer Site	5:00-7:00 p.m.
G-6	Inland Site	5:00-8:00 p.m.

TABLE 59. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON JULY 31, 1975.

	G-1	G-2	G-3	G-4
Ethane	7.0	8.0	4.5	6.0
Ethylene	8.0	4.0	5.0	7.0
Acetylene	6.5	4.5	2.5	5.0
Propane	8.0	7.5	5.0	5.5
Propene	3.0	1.0	3.5	3.0
i-Butane	7.5	7.0	3.0	7.5
n-Butane	16.0	13.5	5.5	14.5
neo-Pentane	*	*	*	*
1-Butene	*	*	*	*
i-Butene	*	*	*	*
t-2-Butene	*	*	*	*
Propyne	*	*	*	*
c-2-Butene	*	*	*	*
i-Pentane	19.0	13.0	6.5	17.0
n-Pentane	9.0	7.0	3.5	8.0
Cyclopentane	1.0	*	*	1.0
1-Pentene	*	*	*	*
i-Hexane	5.0	.5	1.5	5.0
3-Methylpentane	2.5	3.5	4.0	2.5
n-Hexane	*	2.5	1.5	4.0
Cyclohexane	*	*	*	.5
Total $\mu\text{g}/\text{m}^3$	93	72	46	87

G-1	Trailer Site	6:00-9:00 a.m.
G-2	Trailer Site	11:30-2:30 p.m.
G-3	Inland Site	1:00-4:00 a.m.
G-4	Inland Site	6:00-9:00 a.m.

TABLE 60. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED AT GROUND SITES ON AUGUST 1 AND 2, 1975.

	<u>August 1</u>		<u>August 2</u>			
	G-1	G-2	G-1	G-2	G-3	G-4
Ethane	5.5	5.5	4.5	6.0	6.5	6.0
Ethylene	3.0	3.0	4.5	5.0	4.5	5.0
Acetylene	2.5	2.0	3.5	3.0	4.5	3.0
Propane	5.5	4.5	9.5	4.5	5.5	6.0
Propene	1.0	1.5	2.0	1.5	1.0	3.0
i-Butane	3.0	3.0	5.5	4.0	4.0	3.5
n-Butane	7.5	6.5	11.5	10.0	11.5	8.5
neo-Pentane	*	*	*	*	*	2.0
1-Butene	*	*	*	.5	*	*
i-Butene	*	1.0	*	1.0	1.5	*
t-2-Butene	*	*	*	*	*	*
Propyne	*	*	*	*	*	*
c-2-Butene	*	*	*	*	*	*
i-Pentane	8.5	5.5	12.5	13.5	14.0	8.5
n-Pentane	4.5	3.5	7.0	9.5	7.5	4.5
Cyclopentane	*	*	*	4.0	1.0	1.0
1-Pentene	*	*	*	*	*	*
i-Hexane	3.0	3.5	3.5	6.5	5.5	2.0
3-Methylpentane	2.0		2.0	4.5	3.5	7.0
n-Hexane	2.5	1.5	2.0	5.0	3.0	2.0
Cyclohexane	*	*	.5	*	*	*
Total $\mu\text{g}/\text{m}^3$	49	41	69	78	73	62

August 1

G-1 Trailer Site 3:30-6:30 p.m.
 G-2 Inland Site 4:00-7:00 p.m.

August 2

G-1 Trailer Site 6:00-9:00 a.m.
 G-2 Trailer Site 11:00-2:00 p.m.
 G-3 Trailer Site 5:00-8:00 p.m.
 G-4 Trailer Site 6:00-9:00 a.m.

TABLE 61. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON AUGUST 3, 1975.

	G-1	G-2	G-3	G-4	G-5
Ethane	6.5	6.5	6.5	7.0	6.0
Ethylene	7.5	5.0	5.5	6.0	3.5
Acetylene	5.5	3.5	4.5	4.0	2.0
Propane	9.5	15.0	6.5	5.5	4.5
Propene	3.0	2.5	1.0	1.0	1.5
i-Butane	5.5	5.5	5.0	3.0	2.5
n-Butane	15.5	11.5	13.5	7.5	5.0
neo-Pentane	*	*	*	*	*
1-Butene	1.0	1.0	*	*	*
i-Butene	1.0	2.0	*	1.5	2.0
t-2-Butene	*	*	*	*	*
Propyne	*	*	*	*	*
c-2-Butene	*	*	*	*	*
i-Pentane	17.0	14.0	15.5	11.0	4.5
n-Pentane	9.5	8.0	9.5	6.5	2.5
Cyclopentane	*	*	*	*	*
1-Pentene	*	*	*	*	*
i-Hexane	5.0	*	6.5	5.0	1.0
3-Methylpentane	*	*	5.0	3.0	*
n-Hexane	*	*	*	4.5	1.5
Cyclohexane	*	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	87	75	79	66	37

G-1	Trailer Site	1:00-4:00 a.m.
G-2	Trailer Site	6:00-9:00 a.m.
G-3	Trailer Site	11:00-2:00 p.m.
G-4	Trailer Site	2:00-5:00 p.m.
G-5	Inland Site	2:00-5:00 p.m.

TABLE 62. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON AUGUST 4, 1975.

	G-1	G-2	G-3	G-4	G-5
Ethane	6.0	5.0	3.5	3.5	3.5
Ethylene	12.5	3.5	2.5	2.0	1.5
Acetylene	11.0	2.0	2.5	*	*
Propane	7.0	4.0	3.5	3.0	2.0
Propene	5.0	1.5	1.0	*	.5
i-Butane	3.5	2.0	9.0	1.0	.5
n-Butane	7.5	4.5	3.5	2.0	1.0
neo-Pentane	*	*	*	*	*
1-Butene	1.5	*	*	*	*
i-Butene	*	2.0	*	*	1.5
t-2-Butene	2.5	*	1.0	*	*
Propyne	*	*	*	*	*
c-2-Butene	*	*	*	*	*
i-Pentane	3.0	4.5	4.5	2.5	2.0
n-Pentane	8.5	2.5	3.0	2.0	1.0
Cyclopentane	*	*	*	*	*
1-Pentene	*	*	*	*	*
i-Hexane	*	1.0	*	*	*
3-Methylpentane	*	.5	1.5	1.0	*
n-Hexane	*	*	*	*	*
Cyclohexane	*	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	68	33	36	17	14

G-1	Inland Site	1:00-4:00 a.m.
G-2	Inland Site	6:00-9:00 a.m.
G-3	Trailer Site	6:00-9:00 a.m.
G-4	Trailer Site	11:00-2:00 p.m.
G-5	Trailer Site	5:00-8:00 p.m.

TABLE 63. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON AUGUST 5, 1975.

	G-1	G-2	G-3	G-4	G-5
Ethane	4.0	3.0	4.0	5.0	5.0
Ethylene	3.5	1.5	1.5	3.5	
Acetylene	3.0	1.5	1.0	2.0	1.5
Propane	4.0	2.5	5.0	4.5	4.0
Propene	2.5	.5	1.0	1.0	1.5
i-Butane	1.5	1.5	2.0	3.5	2.0
n-Butane	3.0	3.0	4.0	9.0	4.5
neo-Pentane	*	*	*	*	*
1-Butene	*	*	*	*	*
i-Butene	*	*	1.5	*	*
t-2-Butene	1.0	*	*	*	*
Propyne	*	*	*	*	*
c-2-Butene	*	*	*	*	*
i-Pentane	3.5	4.0	5.5	8.5	5.5
n-Pentane	4.0	5.5	3.0	5.5	4.0
Cyclopentane	*	*	*	*	*
1-Pentene	*	*	*	*	*
i-Hexane	*	*	2.0	*	*
3-Methylpentane	1.0	*	1.0	2.0	2.0
n-Hexane	*	*	1.5	1.5	*
Cyclohexane	*	*	*	2.0	*
Total $\mu\text{g}/\text{m}^3$	31	23	33	48	30

G-1	Inland Site	1:00-4:00 a.m.
G-2	Inland Site	6:00-9:00 a.m.
G-3	Trailer Site	6:00-9:00 a.m.
G-4	Trailer Site	11:00-2:00 p.m.
G-5	Trailer Site	5:00-8:00 p.m.

TABLE 64. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON AUGUST 6, 1975.

	G-1	G-2	G-3	G-4
Ethane	4.5	5.0	5.0	3.0
Ethylene	2.0	4.0	5.5	1.5
Acetylene	1.0	3.5	3.5	1.0
Propane	5.0	5.5	5.5	2.5
Propene	1.0	*	2.5	.5
i-Butane	2.0	3.5	4.0	1.5
n-Butane	4.0	9.0	10.0	4.0
neo-Pentane	*	*	*	*
1-Butene	*	*	*	*
i-Butene	*	1.5	1.0	2.0
t-2-Butene	1.5	*	*	*
Propyne	*	*	*	*
c-2-Butene	*	*	*	*
i-Pentane	4.5	10.0	10.5	4.5
n-Pentane	3.0	5.5	6.0	2.5
Cyclopentane	*	*	*	*
1-Pentene	*	*	*	*
i-Hexane	1.5	3.5	3.0	1.5
3-Methylpentane	.5	1.5	*	.5
n-Hexane	1.0	2.5	*	*
Cyclohexane	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	32	55	57	25

G-1	Trailer Site	6:00-9:00 a.m.
G-2	Trailer Site	11:00-2:00 p.m.
G-3	Trailer Site	5:00-8:00 p.m.
G-4	Rural Site	2:00-5:00 p.m.

TABLE 65. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON AUGUST 7, 1975.

	G-1	G-2	G-3	G-4
Ethane	4.0	3.5	4.0	5.0
Ethylene	3.0	1.5	2.0	3.5
Acetylene	3.0	*	*	1.5
Propane	3.0	2.0	3.5	3.5
Propene	1.5	*	*	1.5
i-Butane	1.5	1.0	1.0	1.5
n-Butane	3.0	1.5	2.0	3.5
neo-Pentane	*	*	*	*
1-Butene	*	*	*	*
i-Butene	*	1.5	*	2.5
t-2-Butene	*	*	*	*
Propyne	*	*	*	*
c-2-Butene	*	*	*	*
i-Pentane	2.5	2.0	2.0	4.5
n-Pentane	2.0	1.0	1.5	2.5
Cyclopentane	*	*	*	*
1-Pentene	*	*	*	*
i-Hexane	*	*	*	1.5
3-Methylpentane	*	1.0	1.5	.5
n-Hexane	*	*	*	1.0
Cyclohexane	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	24	15	18	33

G-1	Inland Site	1:00-4:00 a.m.
G-2	Inland Site	6:00-9:00 a.m.
G-3	Trailer Site	6:00-9:00 a.m.
G-4	Trailer Site	11:00-2:00 p.m.

TABLE 66. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON AUGUST 8, 1975.

	G-1	G-2	G-3	G-4
Ethane	5.0	4.5	5.0	5.5
Ethylene	2.5	4.5	3.5	3.0
Acetylene	2.0	2.0	2.0	2.0
Propane	5.0	4.5	4.5	4.5
Propene	1.5	1.5	1.5	1.5
i-Butane	3.5	2.0	2.0	2.0
n-Butane	*	3.5	4.0	4.0
neo-Pentane	*	*	*	*
1-Butene	*	*	*	*
i-Butene	2.0	*	1.0	*
t-2-Butene	*	*	*	1.5
Propyne	*	*	*	*
c-2-Butene	*	*	*	*
i-Pentane	4.0	5.0	5.5	4.5
n-Pentane	2.5	3.5	5.0	2.5
Cyclopentane	*	1.0	*	*
1-Pentene	*	*	*	*
i-Hexane	1.5	1.0	*	1.5
3-Methylpentane	1.0	1.5	*	*
n-Hexane	1.5	*	*	*
Cyclohexane	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	32	35	34	33

G-1	Trailer Site	6:00-9:00 a.m.
G-2	Trailer Site	11:00-2:00 p.m.
G-3	Trailer Site	5:00-8:00 p.m.
G-4	Inland Site	2:00-5:00 p.m.

TABLE 67. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED AT GROUND SITES ON AUGUST 9, 1975.

	G-1	G-2	G-3	G-4	G-5
Ethane	8.0	4.5	6.0	5.5	6.0
Ethylene	6.5	4.0	5.5	7.0	4.5
Acetylene	4.5	3.0	2.5	3.0	2.5
Propane	7.5	5.0	9.0	5.0	4.5
Propene	2.5	2.0	2.5	1.5	1.0
i-Butane	2.5	2.5	2.5	3.5	2.5
n-Butane	6.5	5.5	6.5	8.0	6.5
neo-Pentane	*	*	*	*	*
1-Butene	1.0	1.0	1.0	1.0	1.0
i-Butene	2.0	1.0	2.0	*	1.0
t-2-Butene	*	*	*	*	*
Propyne	*	*	*	*	*
c-2-Butene	1.0	*	.5	*	*
i-Pentane	7.0	6.0	8.0	10.0	8.0
n-Pentane	5.0	4.0	4.5	6.5	5.0
Cyclopentane	*	*	*	*	*
1-Pentene	*	*	*	*	*
i-Hexane	2.5	*	2.5	2.5	*
3-Methylpentane	*	*	*	2.0	*
n-Hexane	*	*	*	4.0	*
Cyclohexane	*	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	57	39	53	60	43

G-1	Inland Site	1:00-4:00 a.m.
G-2	Inland Site	6:00-9:00 a.m.
G-3	Trailer Site	6:00-9:00 a.m.
G-4	Trailer Site	11:00-2:00 p.m.
G-5	Trailer Site	5:00-8:00 p.m.

TABLE 68. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED AT GROUND SITES ON AUGUST 10 AND 11, 1975.

	August 10		August 11		
	G-1	G-2	G-1	G-2	G-3
Ethane	8.0	7.5	10.0	7.0	9.5
Ethylene	8.0	3.5	9.0	6.0	4.0
Acetylene	3.0	3.0	7.0	6.0	3.5
Propane	7.0	6.0	25.5	8.0	7.5
Propene	2.5	1.0	4.5	1.5	1.0
i-Butane	3.5	3.0	8.0	6.0	3.0
n-Butane	7.5	6.5	18.5	15.5	7.0
neo-Pentane	*	*	*	*	*
1-Butene	*	*	2.5	*	*
i-Butene	3.0	2.0	1.0	*	*
t-2-Butene	*	*	4.5	*	*
Propyne	*	*	*	*	*
c-2-Butene	*	*	*	*	*
i-Pentane	10.0	8.0	22.0	18.5	8.5
n-Pentane	6.0	4.5	12.5	10.0	5.0
Cyclopentane	*	*	1.5	1.0	*
1-Pentene	*	*	*	*	*
i-Hexane	3.5	2.5	8.5	5.5	3.0
3-Methylpentane	1.5	*	5.5	4.0	2.0
n-Hexane	*	*	7.5	*	2.5
Cyclohexane	*	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	64	48	148	89	57

August 10

G-1 Trailer Site 6:00-9:00 a.m.

G-2 Trailer Site 11:00-2:00 p.m.

August 11

G-1 Trailer Site 6:00-9:00 a.m.

G-2 Trailer Site 11:00-2:00 p.m.

G-3 Trailer Site 5:00-8:00 p.m.

TABLE 69. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON AUGUST 12 AND 13, 1975.

	August 12			August 13		
	G-1	G-2	G-3	G-1	G-2	G-3
Ethane	5.0	7.0	9.0	4.5	5.0	5.0
Ethylene	6.5	3.5	5.5	6.5	3.0	3.0
Acetylene	4.5	2.5	5.0	4.5	3.0	1.5
Propane	10.5	5.5	8.0	11.5	4.0	4.5
Propene	3.0	1.0	1.5	2.5	1.0	1.5
i-Butane	5.0	3.0	4.0	6.5	2.5	2.0
n-Butane	11.5	6.0	9.0	13.5	5.5	4.5
neo-Pentane	*	*	*	*	*	*
1-Butene	1.0	*	*	1.0	*	*
i-Butene	*	*	*	1.0	1.0	*
t-2-Butene	2.5	*	1.5	1.5	*	*
Propyne	*	*	*	*	*	*
c-2-Butene	*	*	*	*	*	*
i-Pentane	14.5	7.0	11.0	16.5	7.5	5.5
n-Pentane	9.0	4.5	6.0	9.5	4.0	4.0
Cyclopentane	1.0	*	*	*	*	*
1-Pentene	*	*	*	*	*	*
i-Hexane	4.0	2.5	4.5	4.5	3.0	2.0
3-Methylpentane	3.0	1.5	2.5	3.0	1.5	.5
n-Hexane	4.5	2.5	3.5	*	4.0	*
Cyclohexane	*	*	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	86	47	71	87	45	34

August 12

G-1 Trailer Site 6:00-9:00 a.m.
G-2 Trailer Site 11:00-2:00 p.m.
G-3 Trailer Site 5:00-8:00 p.m.

August 13

G-1 Trailer Site 6:00-9:00 a.m.
G-2 Trailer Site 2:30 p.m.
G-3 Trailer Site 5:00-8:00 p.m.

TABLE 70. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON AUGUST 14, 1975.

	G-1	G-2	G-3	G-4
Ethane	7.0	7.5	7.0	7.0
Ethylene	4.5	2.5	3.5	3.0
Acetylene	1.5	1.5	2.5	2.0
Propane	7.0	5.0	6.5	6.0
Propene	1.0	1.0	1.5	3.0
i-Butane	3.0	2.5	3.5	2.5
n-Butane	6.0	5.0	7.5	5.5
neo-Pentane	*	*	*	*
1-Butene	*	*	*	2.5
i-Butene	1.5	*	*	*
t-2-Butene	*	1.0	*	1.0
Propyne	*	*	*	*
c-2-Butene	*	*	*	*
i-Pentane	7.0	6.0	8.0	6.0
n-Pentane	4.0	3.0	4.0	3.5
Cyclopentane	*	*	*	*
1-Pentene	*	*	*	*
i-Hexane	1.5	2.0	2.0	*
3-Methylpentane	1.0	1.0	1.0	2.5
n-Hexane	*	1.5	*	*
Cyclohexane	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	45	40	47	45

G-1	Trailer Site	6:00-9:00 a.m.
G-2	Trailer Site	7:00-9:00 a.m.
G-3	Trailer Site	11:00-2:00 p.m.
G-4	Trailer Site	5:00-8:00 p.m.

TABLE 71. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED AT GROUND SITES ON AUGUST 15 AND 16, 1975.

	August 15			August 16	
	G-1	G-2	G-3	G-1	G-2
Ethane	4.5	3.5	6.5	5.5	4.5
Ethylene	2.5	2.5	2.0	9.5	4.5
Acetylene	2.0	1.5	1.0	3.0	1.0
Propane	5.5	3.5	5.5	13.0	4.5
Propene	1.0	1.0	*	2.5	*
i-Butane	2.5	2.0	1.5	6.0	2.0
n-Butane	6.0	4.5	2.5	12.0	3.5
neo-Pentane	*	*	*	*	*
1-Butene	*	*	*	1.0	*
i-Butene	*	.5	*	1.0	*
t-2-Butene	*	*	1.5	*	*
Propyne	*	*	*	*	*
c-2-Butene	*	*	*	*	*
i-Pentane	7.5	5.5	3.5	15.5	4.5
n-Pentane	4.5	3.5	2.0	8.0	2.5
Cyclopentane	*	*	*	*	*
1-Pentene	*	*	*	*	*
i-Hexane	*	2.0	1.5	4.5	*
3-Methylpentane	*	1.5	*	*	*
n-Hexane	*	1.5	*	*	*
Cyclohexane	*	*	*	*	**
Total $\mu\text{g}/\text{m}^3$	36	33	28	82	27

August 15

G-1 Trailer Site 8:30-10:30 a.m.

G-2 Trailer Site 11:00-2:00 p.m.

G-3 Trailer Site 5:00-8:00 p.m.

August 16

G-1 Trailer Site 6:00-9:00 a.m.

G-2 Trailer Site 5:00-8:00 p.m.

TABLE 72. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED AT GROUND SITES ON AUGUST 17 AND 18, 1975.

	August 17		August 18		
	G-1	G-2	G-1	G-2	G-3
Ethane	6.5	4.5	12.5	4.0	10.0
Ethylene	2.5	2.5	9.5	3.5	12.0
Acetylene	1.0	1.0	5.0	4.0	3.0
Propane	6.0	4.0	10.5	6.5	8.0
Propene	*	1.0	1.5	1.0	4.5
i-Butane	2.5	1.5	6.0	5.5	3.5
n-Butane	3.0	3.0	11.5	9.5	7.0
neo-Pentane	*	*	*	*	*
1-Butene	*	*	*	*	*
i-Butene	*	*	3.5	*	*
t-2-Butene	*	*	*	*	3.5
Propyne	*	*	*	*	*
c-2-Butene	*	*	*	*	*
i-Pentane	4.5	4.0	12.0	10.5	8.0
n-Pentane	2.5	3.0	6.5	6.0	4.5
Cyclopentane	*	*	*	1.0	*
1-Pentene	*	*	*	*	*
i-Hexane	*	*	3.5	2.0	2.5
3-Methylpentane	*	*	1.0	2.0	1.5
n-Hexane	*	*	*	2.5	*
Cyclohexane	*	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	29	25	83	58	68

August 17

G-1 Trailer Site 6:00-9:00 a.m.
 G-2 Trailer Site 11:00-2:00 p.m.

August 18

G-1 Trailer Site 6:00-9:00 a.m.
 G-2 Trailer Site 11:00-2:00 p.m.
 G-3 Trailer Site 5:00-8:00 p.m.

TABLE 73. HYDROCARBON CONCENTRATIONS IN SAMPLES COLLECTED
AT GROUND SITES ON AUGUST 19 AND 20, 1975.

	<u>August 19</u>		<u>August 20</u>	
	G-1	G-2	G-3	G-1
Ethane	6.0	5.0	5.5	6.0
Ethylene	5.0	3.5	6.5	5.0
Acetylene	2.0	1.5	1.5	3.5
Propane	5.5	4.5	5.0	6.5
Propene	*	1.0	3.0	1.5
i-Butane	1.5	2.0	2.0	4.0
n-Butane	2.0	3.5	5.5	9.0
neo-Pentane	*	*	*	*
1-Butene	*	*	*	1.0
i-Butene	*	*	*	*
t-2-Butene	*	*	*	2.0
Propyne	*	*	*	*
c-2-Butene	*	*	*	6.5
i-Pentane	5.0	4.0	4.5	12.0
n-Pentane	3.0	2.5	3.5	8.0
Cyclopentane	*	*	*	*
1-Pentene	*	*	*	*
i-Hexane	*	1.5	*	.5
3-Methylpentane	*	*	*	*
n-Hexane	*	*	*	*
Cyclohexane	*	*	*	*
Total $\mu\text{g}/\text{m}^3$	30	29	37	66

August 19

G-1 Trailer Site 6:00-9:00 a.m.

G-2 Trailer Site 11:00-2:00 p.m.

G-3 Trailer Site 5:00-8:00 p.m.

August 20

G-1 Trailer Site 6:00-9:00 a.m.

AIRCRAFT FLIGHT DATA

Three basic types of information are contained in this section.

- 1) A map for each flight showing the route followed, ozone concentrations (ppb) at selected points along the route, vertical sounding locations, and bag and can sample collection points.
- 2) Plot of ozone concentration and temperature vs. altitude for all aircraft vertical soundings.
- 3) Composite plots showing changes in altitude, CN counts, visual range, relative humidity and ozone concentration vs. time (and distance) along the flight path.

The data is arranged by flight with flights numbered consecutively beginning on July 15. All times reported refer to Eastern Daylight Time.



Figure 4. Flight #1 on July 15, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 3:50 to 5:06 PM

Leg ab: 3:50 - 4:04 climb to 6500' MSL
 b: 4:05 - 4:20 spiral descent to 500'
 bc: 4:21 - 4:40 at 1000'
 cd: 4:41 - 4:47 at 1000'
 de: 4:48 - 4:54 slant ascent to 3000'
 ea: 4:55 - 5:06 slant descent to landing

WIND: 210° at 15 mph (Groton)

WEATHER: Sunny and hot

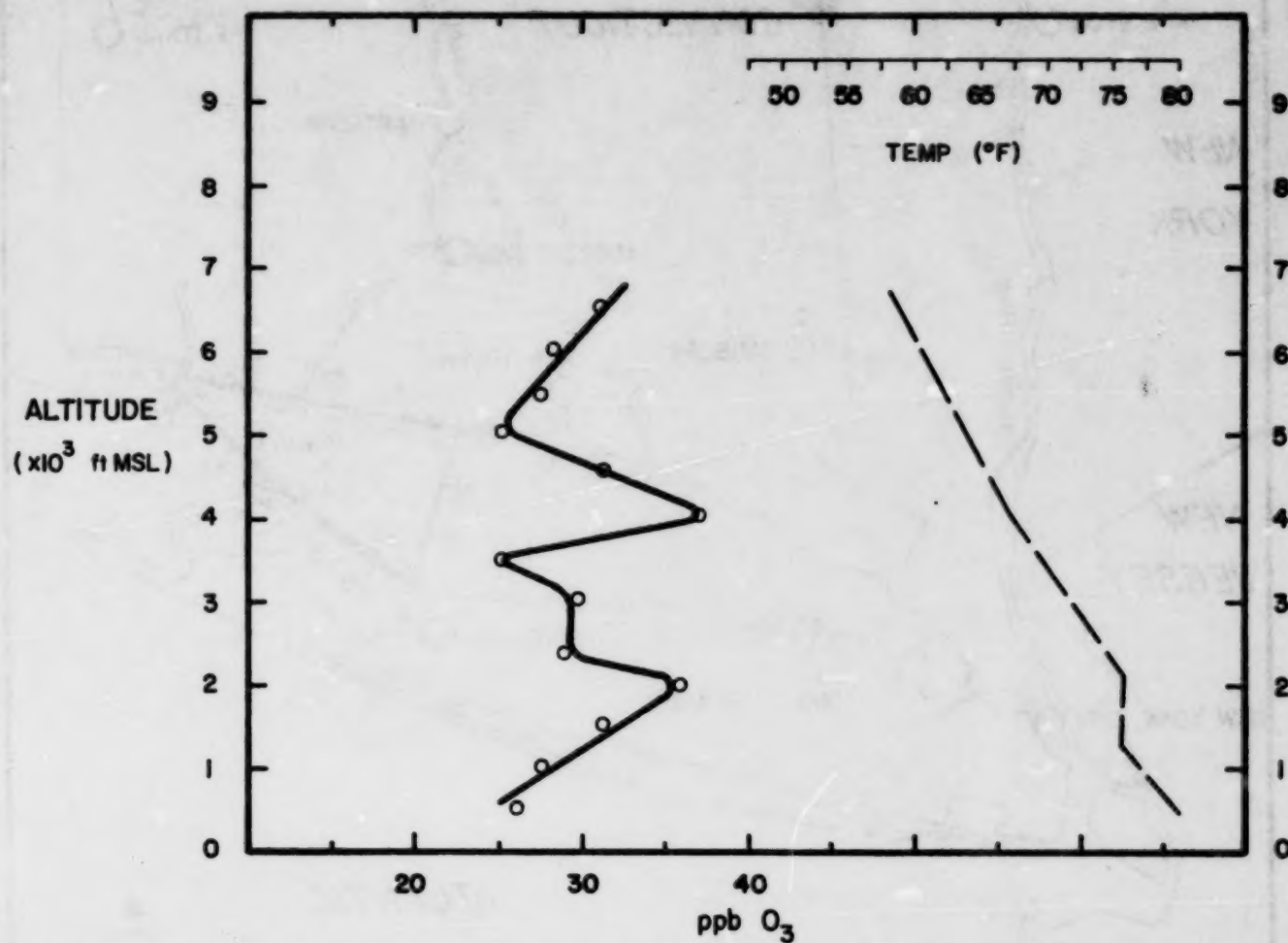
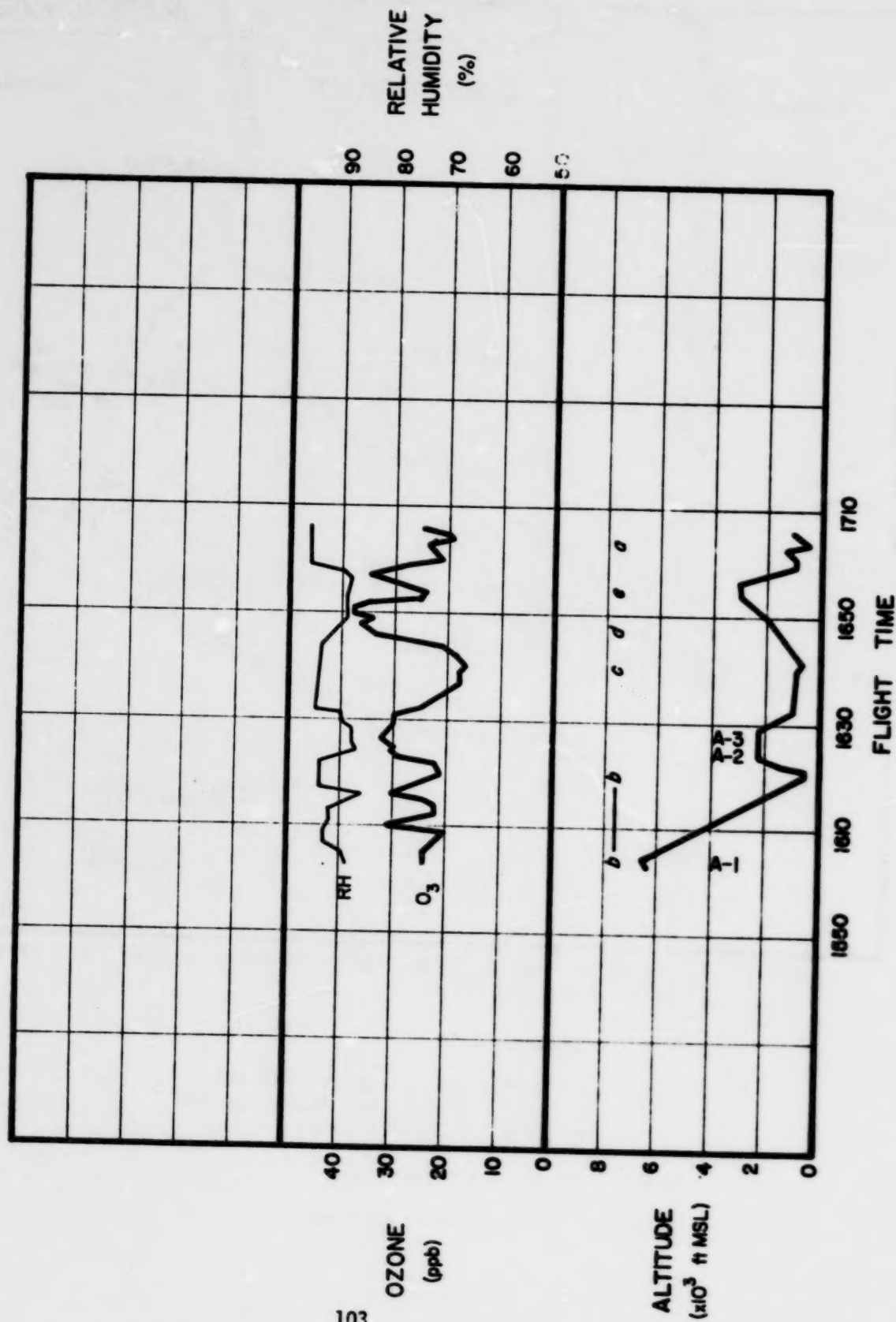


Figure 5. Vertical ozone and temperature profiles over Hampton (point b) at 4:00 pm on July 15, 1975.

Figure 6. Plot of aircraft data recorded during flight #1 on July 15, 1975.



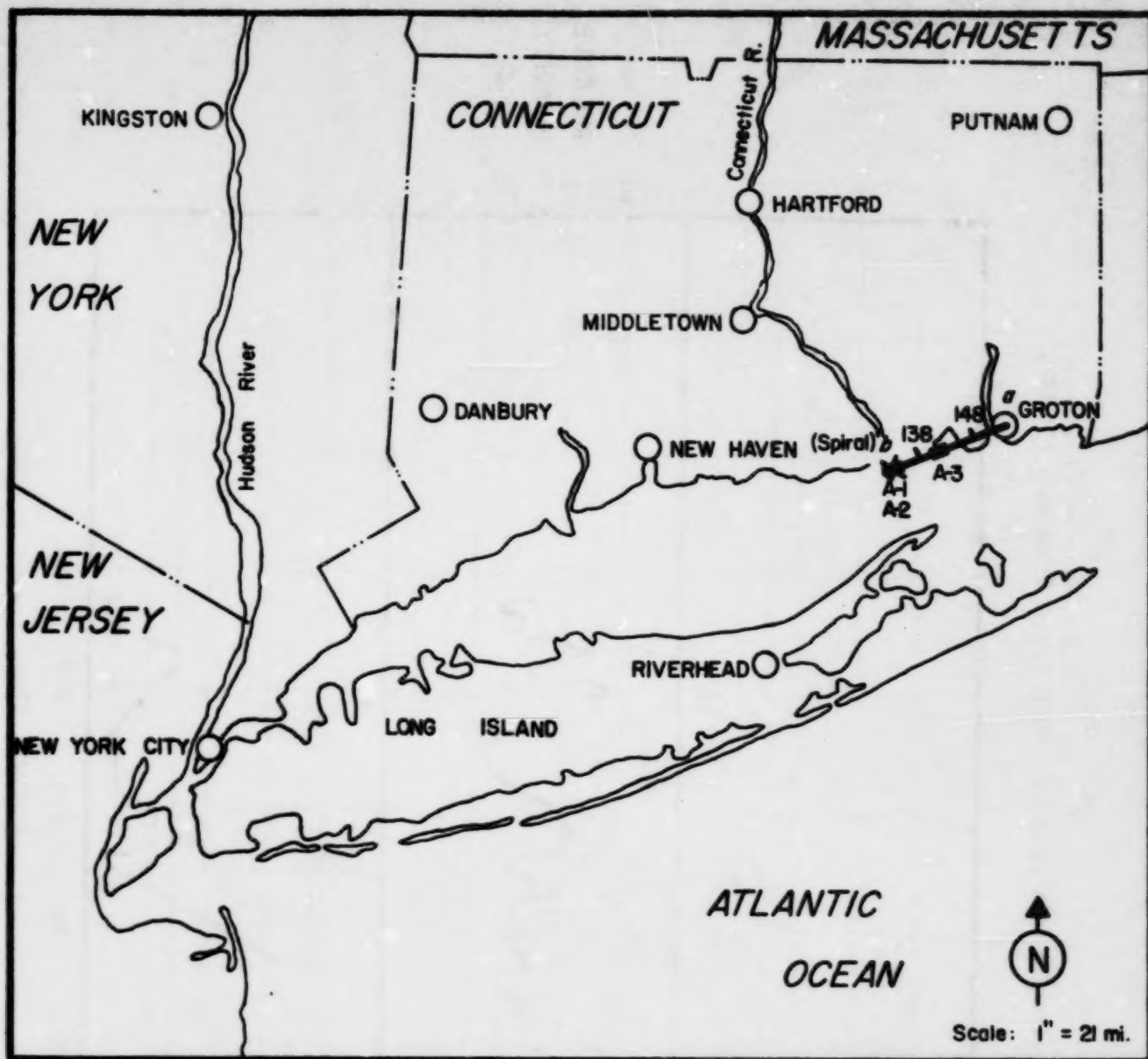


Figure 7. Flight #2 on July 18, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 1:25 to 2:32 PM

Leg ab: 1:25 - 1:56 climb to 7000' MSL
 b: 1:57 - 2:15 spiral descent to 500'
 ba: 2:16 - 2:32 at ~ 1500'

WIND: 230° at 15 mph (Groton)

WEATHER: Sunny and warm with haze

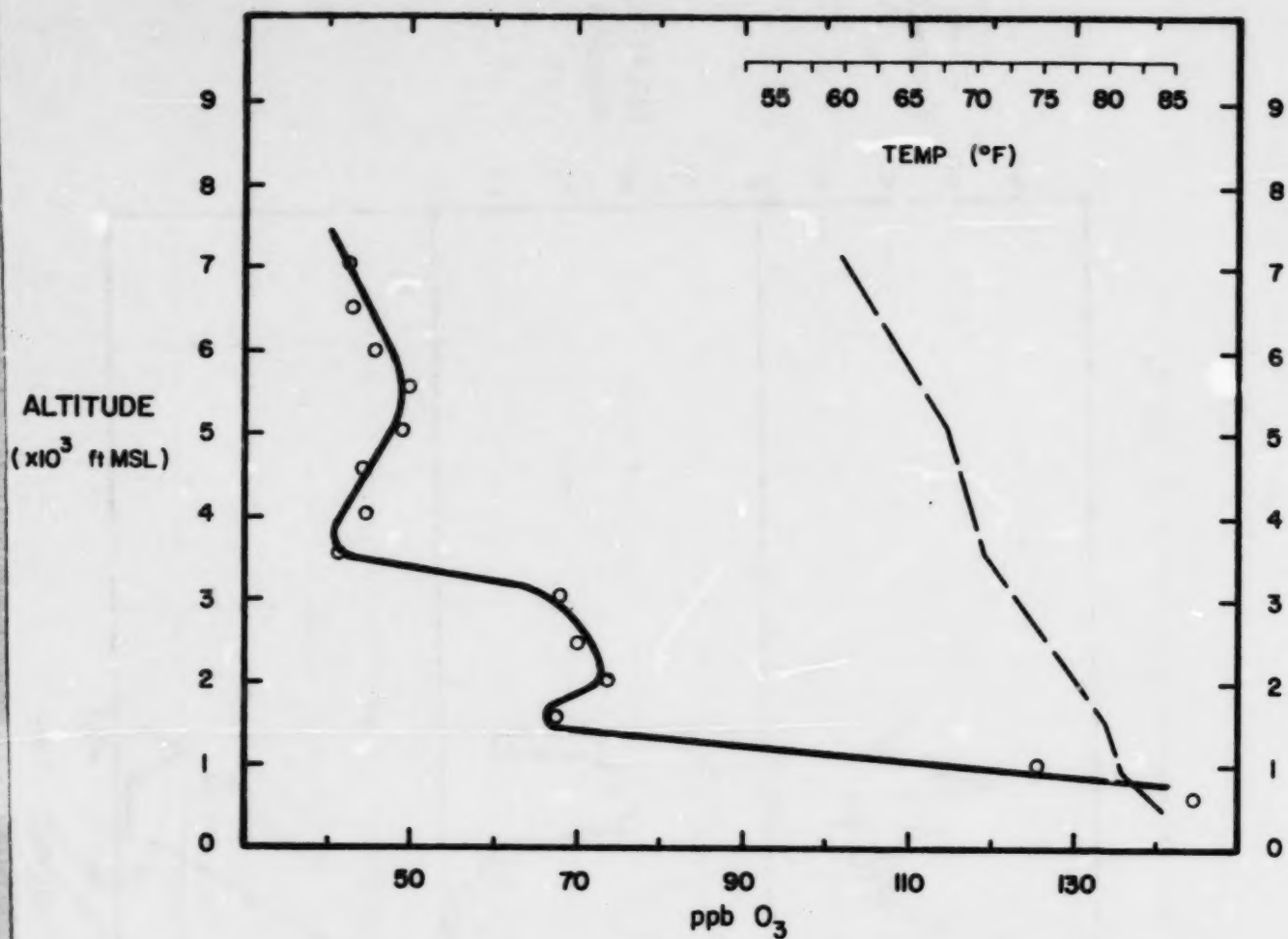
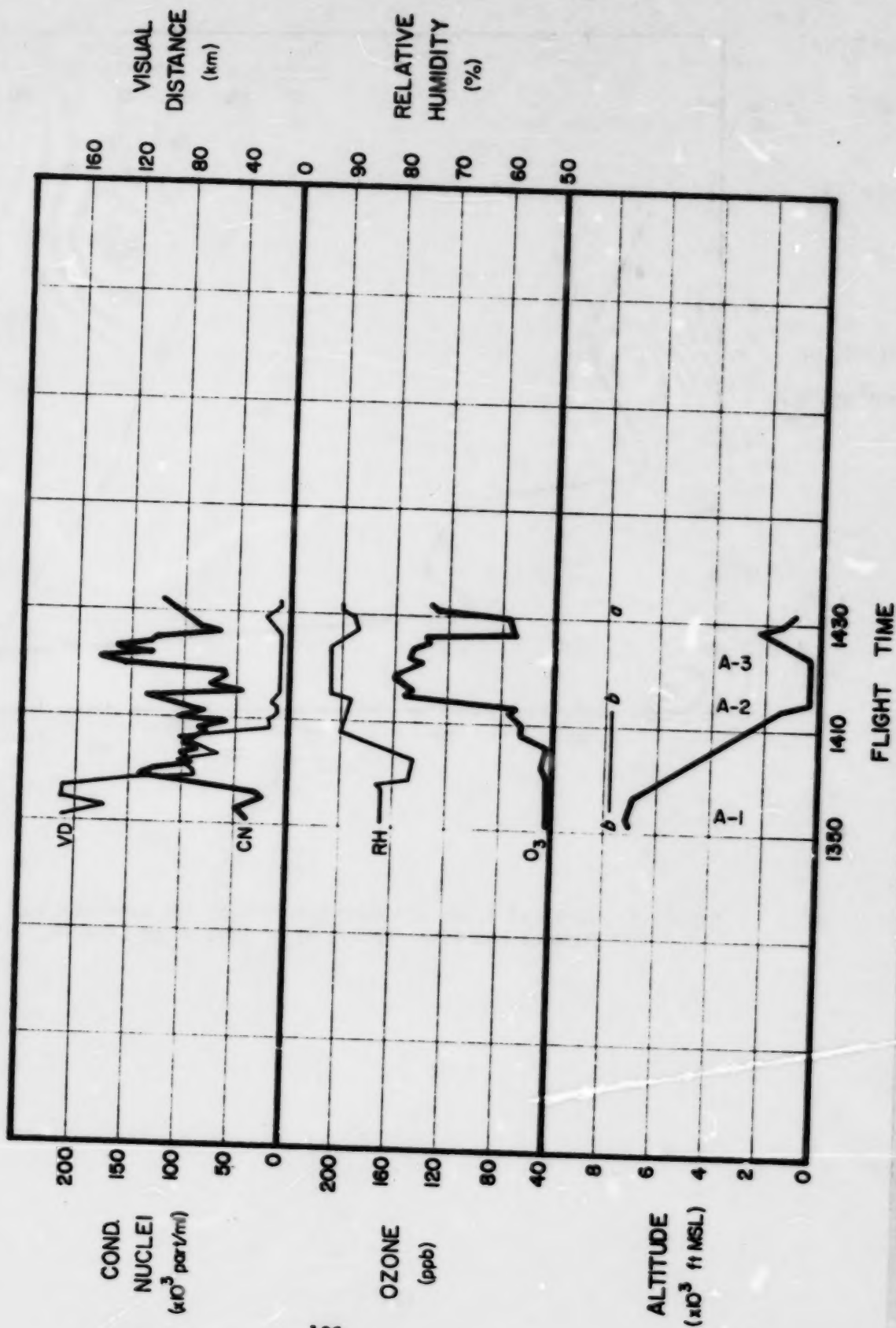


Figure 8. Vertical ozone and temperature profiles over mouth of Connecticut River (point b) at 2:00 pm on July 18, 1975.

Figure 9. Plot of aircraft data recorded during flight #2 on July 18, 1975.



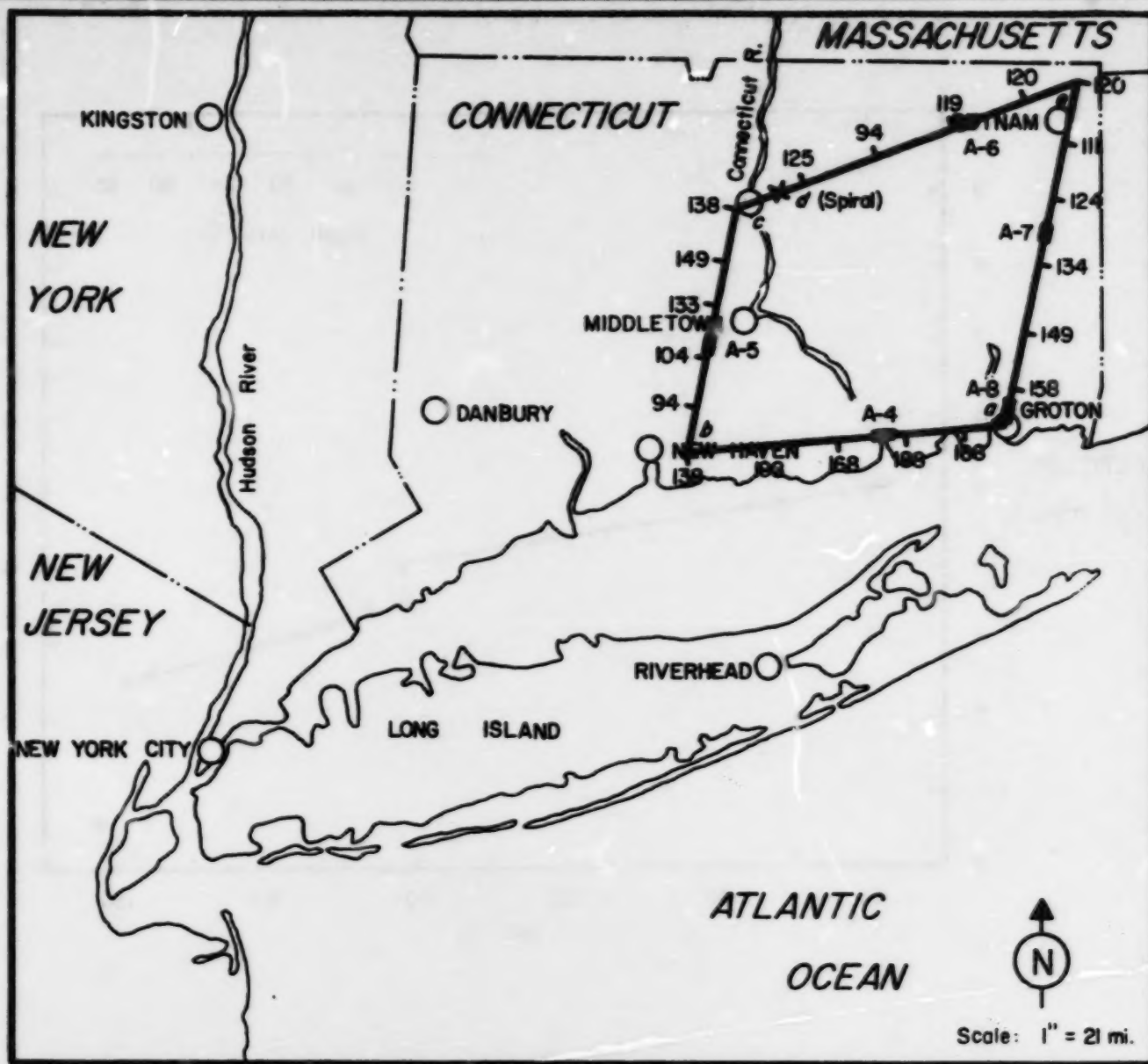


Figure 10. Flight #3 on July 18, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 3:50 to 5:08 PM

Leg ab: 3:50 - 4:05 at ~2500' MSL
 bc: 4:06 - 4:17 at ~2500'
 cd: 4:18 - 4:20 at ~2500'
 d: 4:20 - 4:28 spiral to 5000'
 de: 4:29 - 4:43 slant descent 5000' to 2500'
 ea: 4:44 - 5:08 at ~2500'

WIND: 230° at 10 mph (Groton)

WEATHER: Sunny and hot

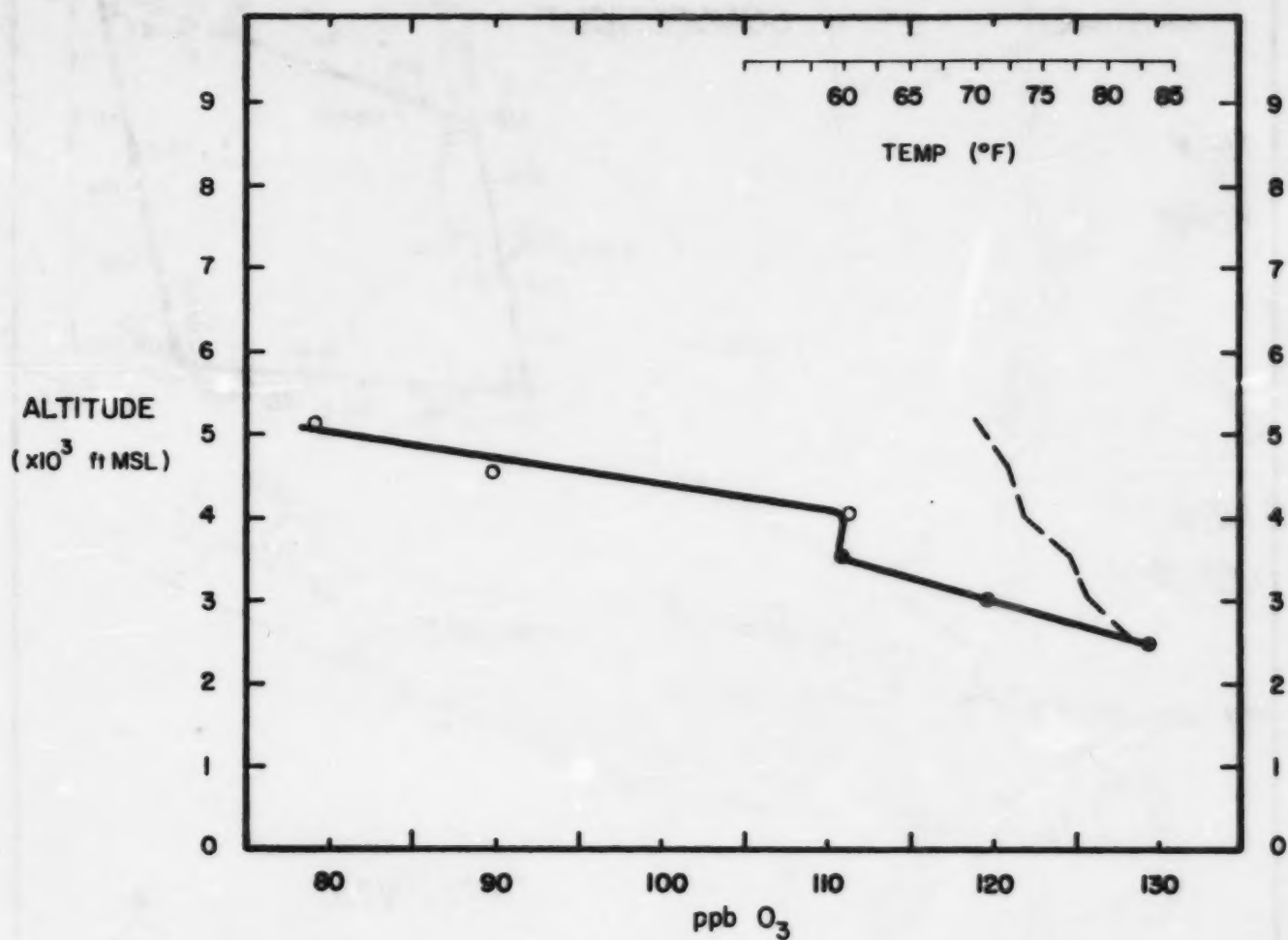
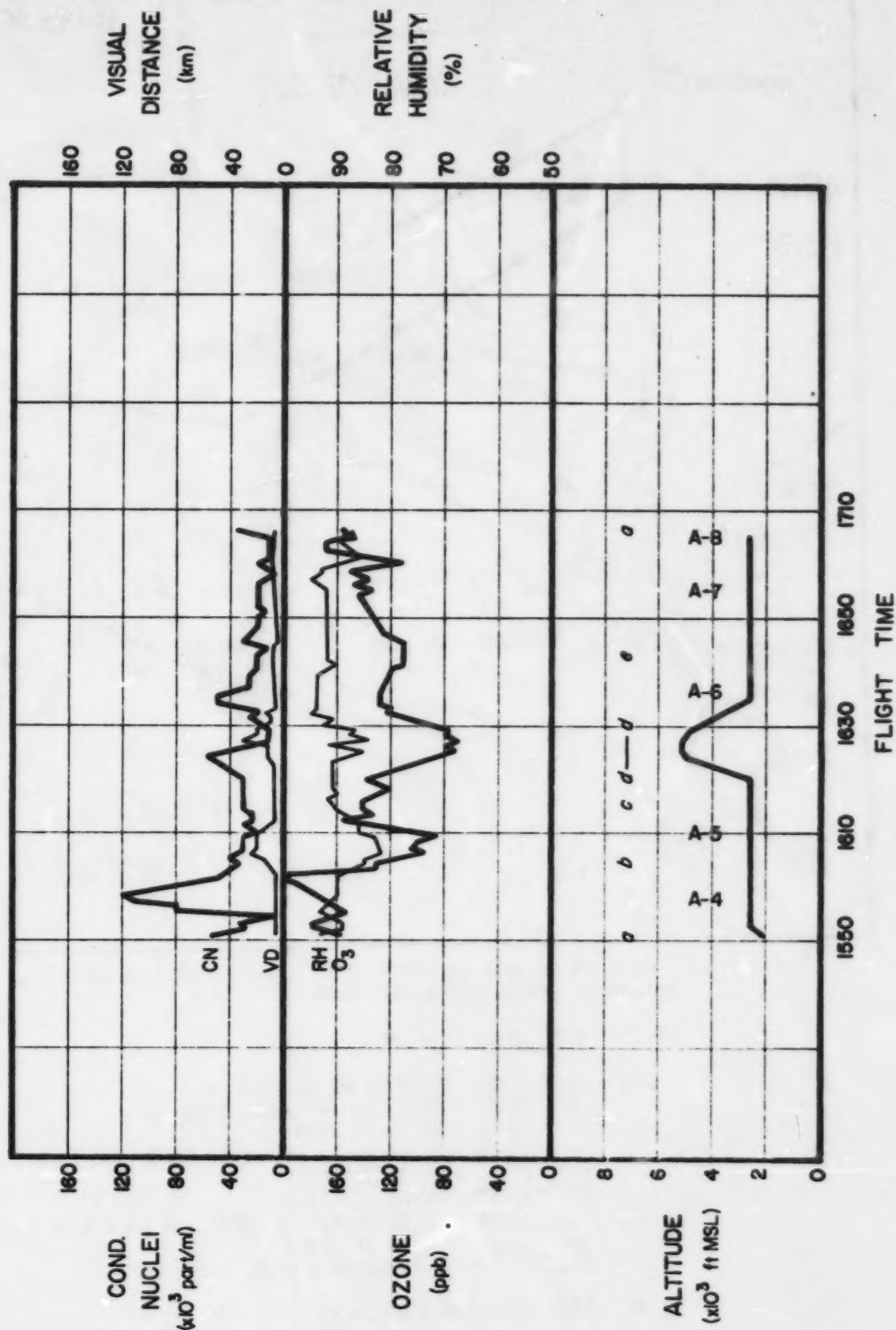


Figure 11. Vertical ozone and temperature profiles near Hartford (point d) at 4:25 pm on July 18, 1975.

Figure 12. Plot of aircraft data recorded during flight #3 on July 18, 1975.



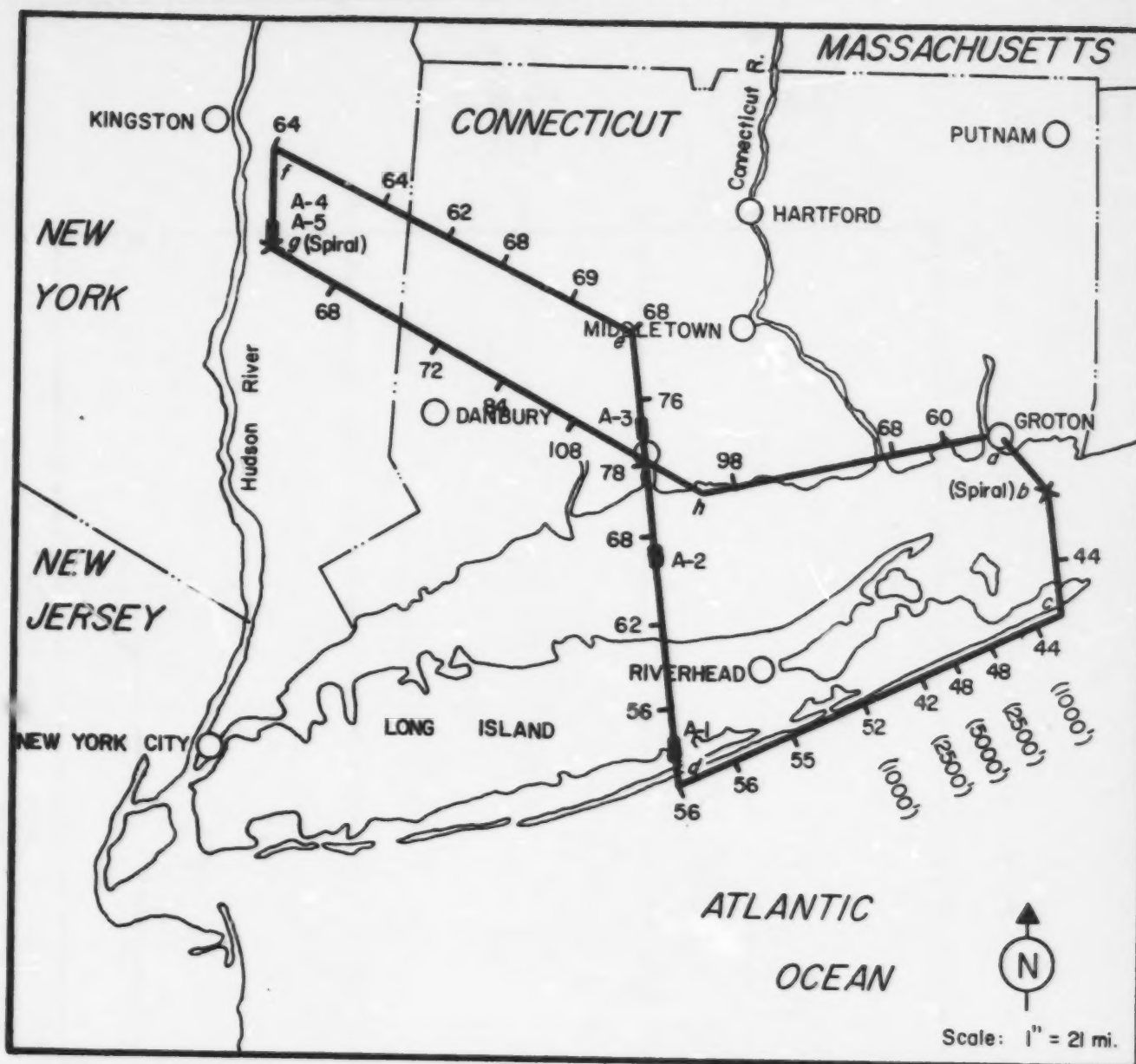


Figure 13. Flight #4 on July 19, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 9:35 AM to 1:15 PM

Leg ab: 9:35 - 10:00 climb to 8000' MSL
 b: 10:01 - 10:22 spiral descent to 1000'
 bc: 10:23 - 10:39 at 1000'
 cd: 10:40 - 11:15 angle ascent to 5000' and back down to 1000'
 de: 11:16 - 11:36 at 1000'
 efg: 11:37 - 12:08 at ~2000'
 g: 12:08 - 12:34 spiral to 8000' and back down to 1500'
 gh: 12:35 - 12:58 at ~1800'
 ha: 12:59 - 1:15 between 1000' and 2000'

WIND: 240° at 20 mph (Groton)

WEATHER: Partly cloudy and warm

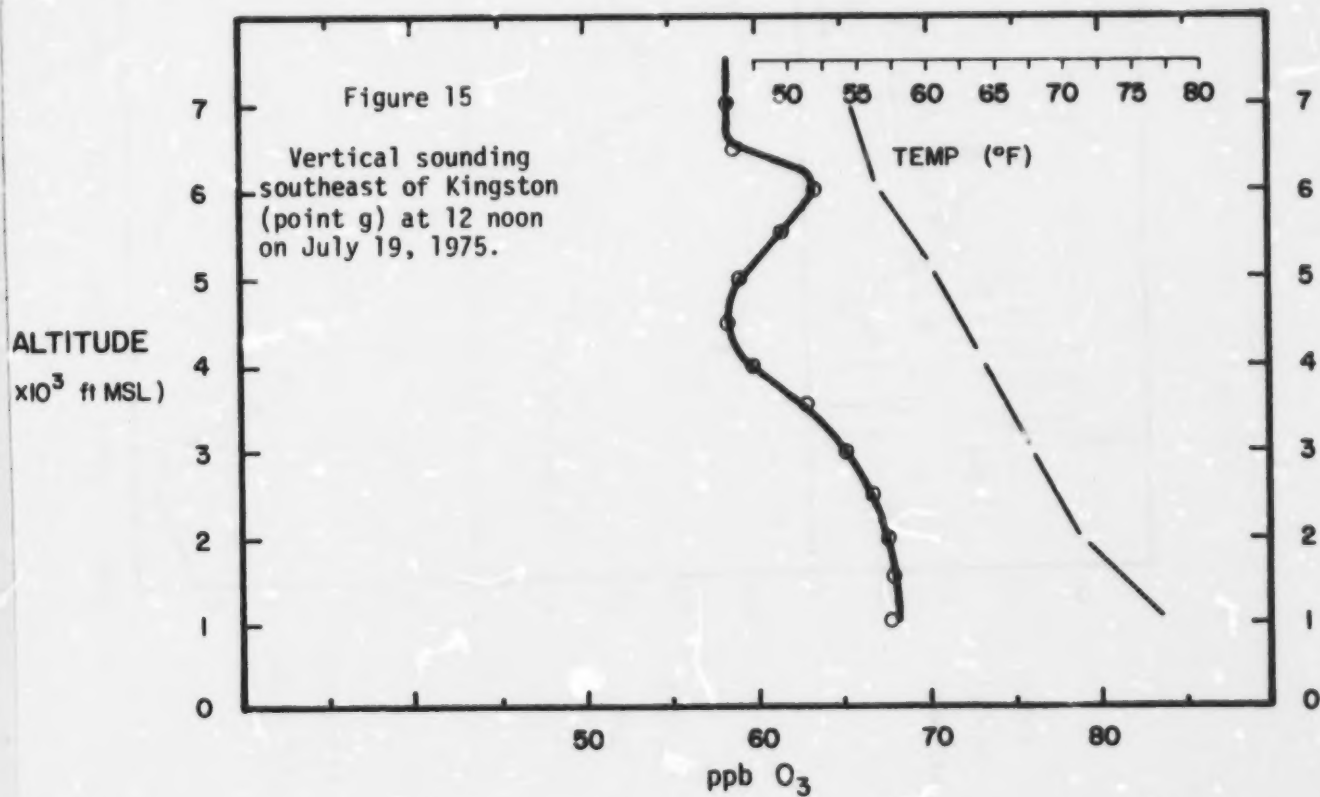
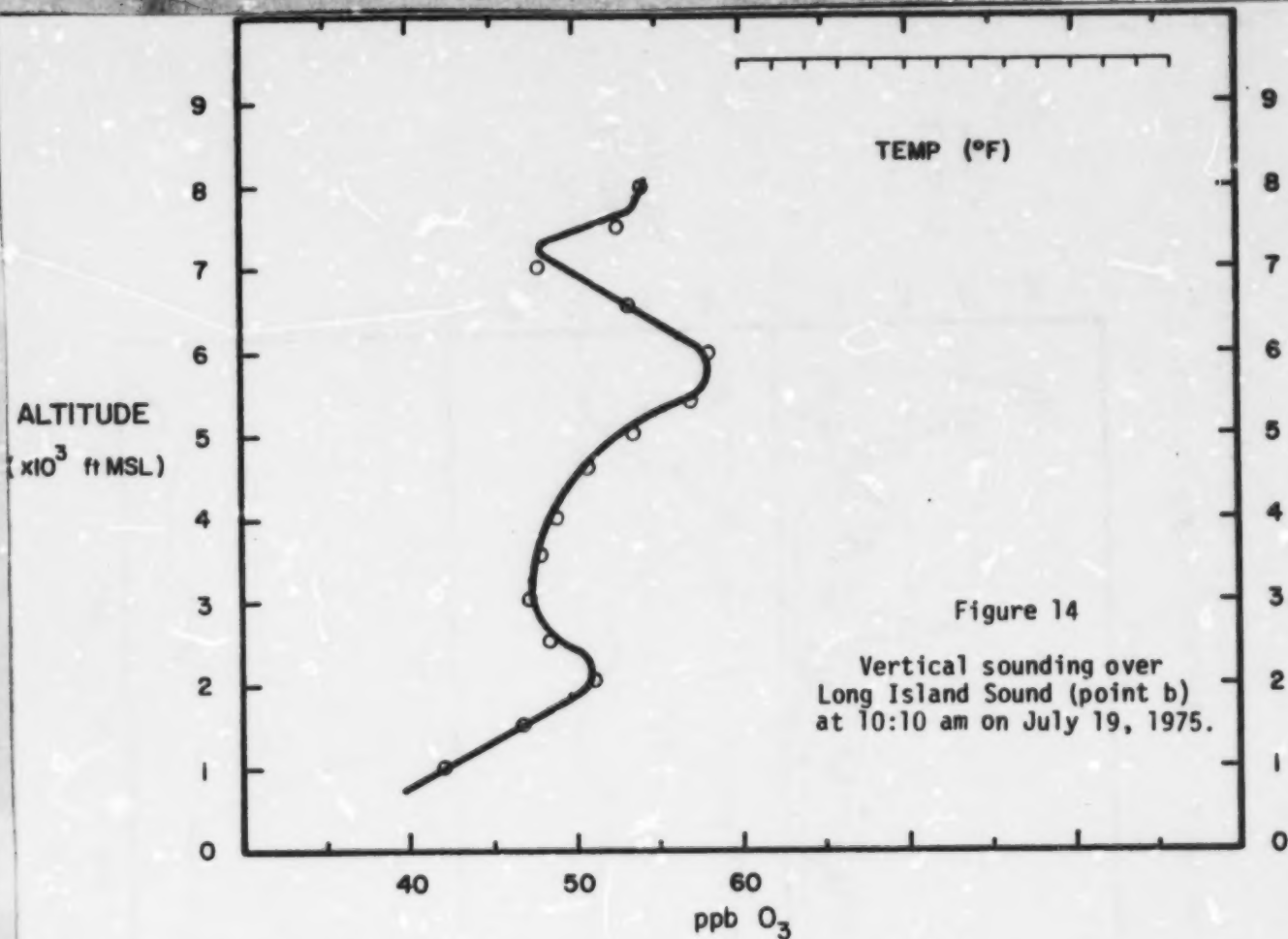
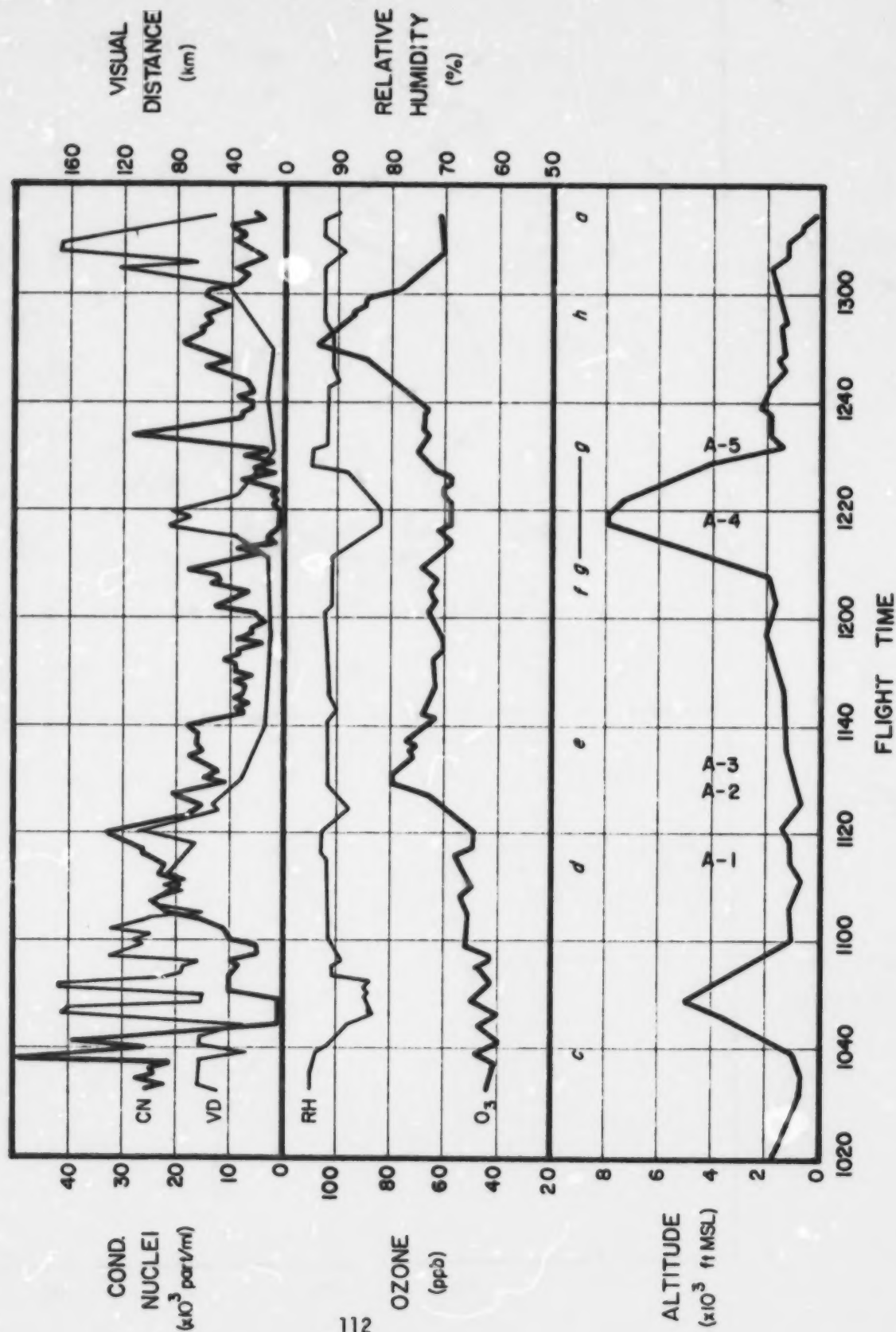


Figure 16. Plot of aircraft data recorded during flight #4 on July 19, 1975.



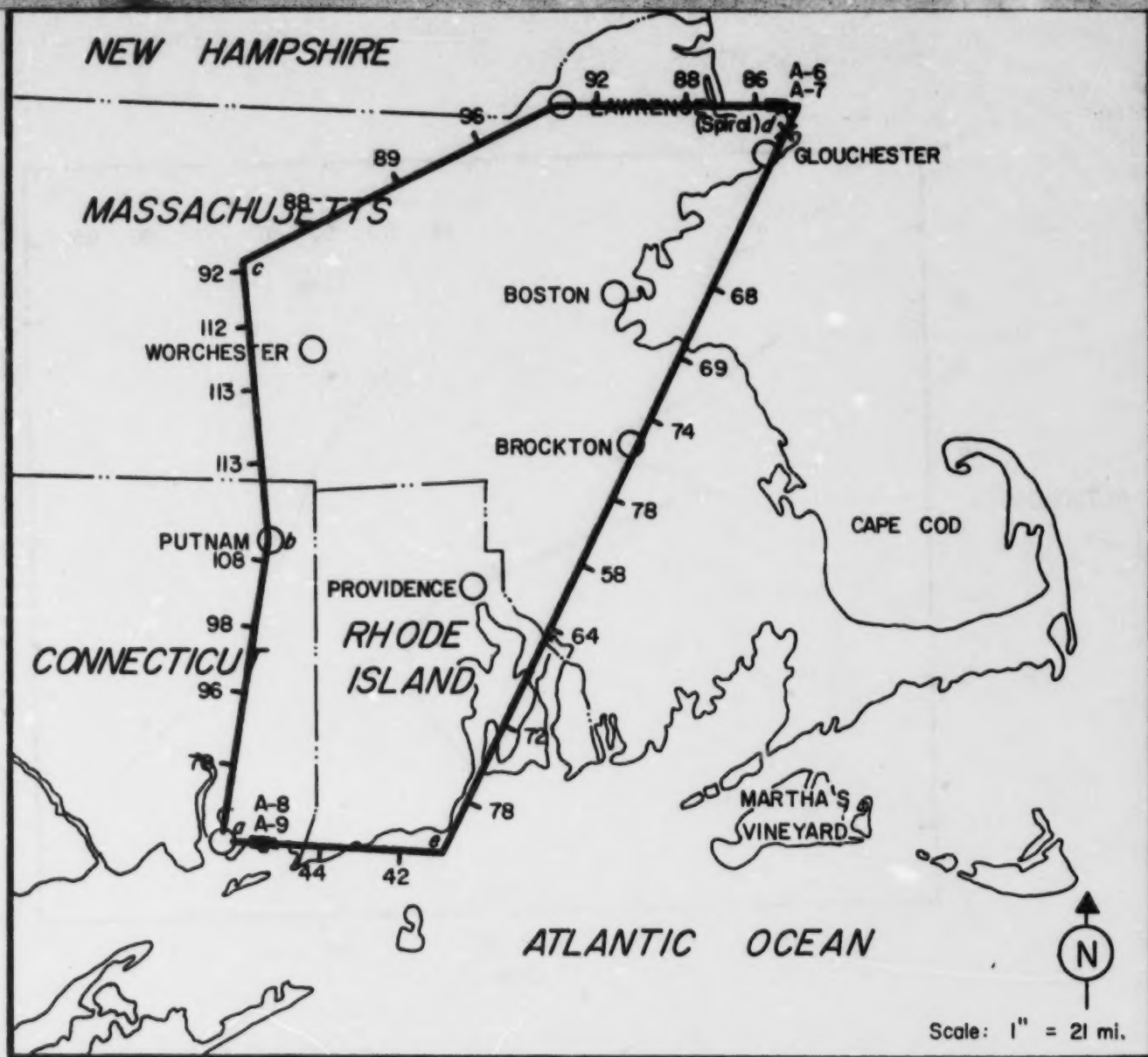


Figure 17. Flight #5 on July 19, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 3:45 to 6:42 PM

Leg ab: 3:45 - 4:00 at ~1500' MSL
 bc: 4:01 - 4:21 at ~2000'
 cd: 4:22 - 4:50 between 1500' and 2000'
 d: 4:51 - 5:22 spiral ascent to 7500' and descent to 2000'
 da: 5:23 - 6:42 varying altitudes between 1000' and 4000'

WIND: 240° at 15 mph (Groton)

WEATHER: Sunny and hot

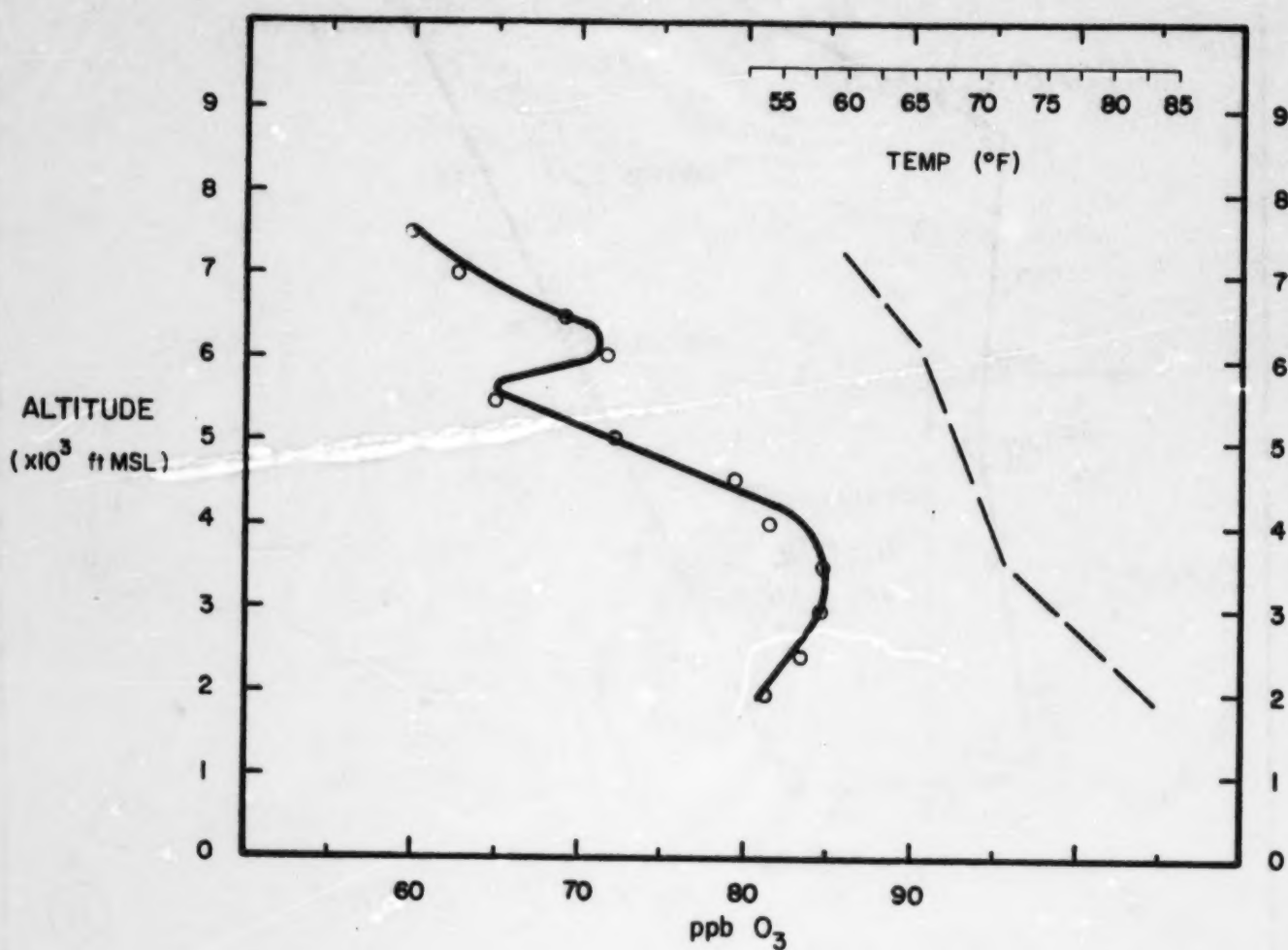
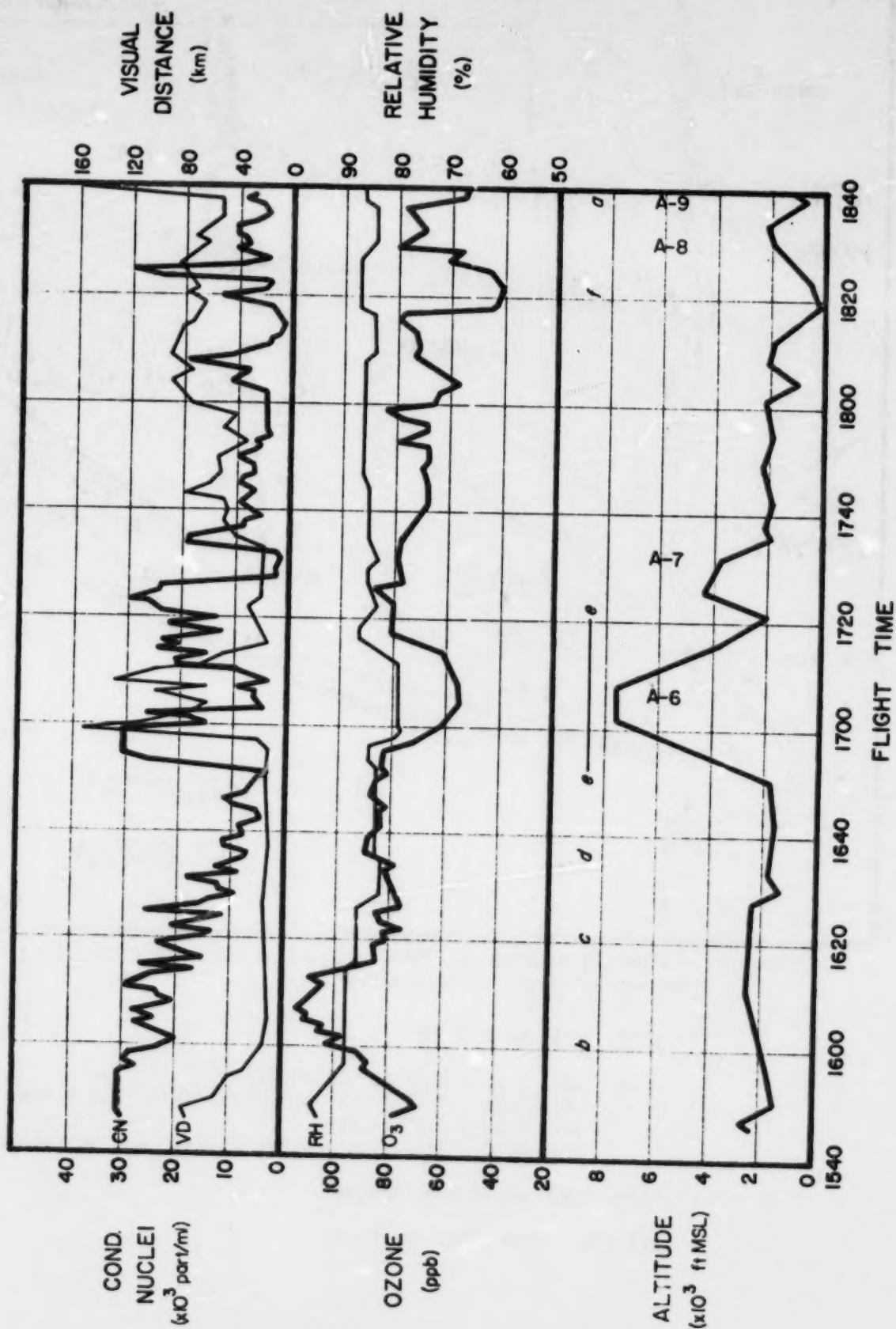


Figure 18. Vertical ozone and temperature profiles northeast of Boston (point d) at 5:00 pm on July 19, 1975.

Figure 19. Plot of aircraft data recorded during flight #5 on July 19, 1975.



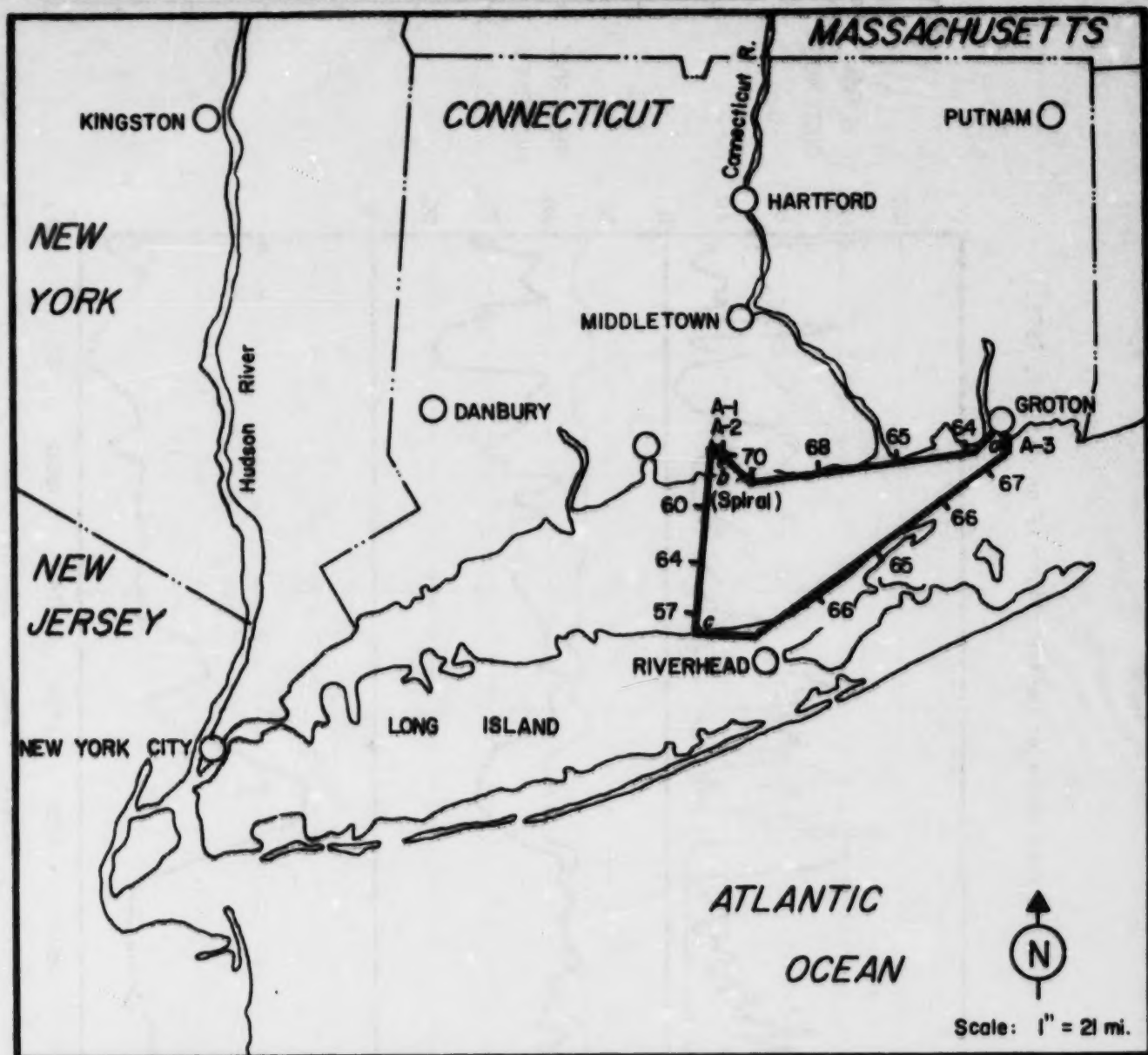


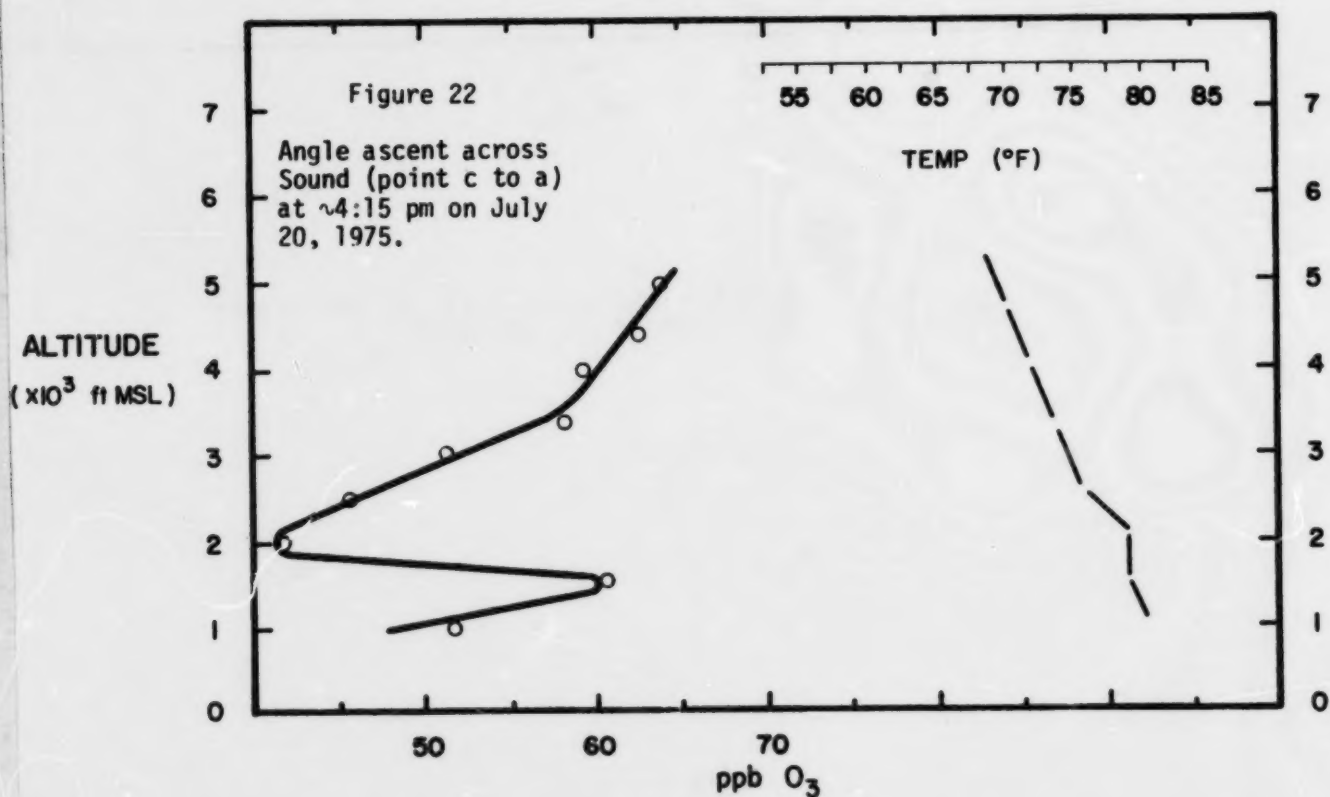
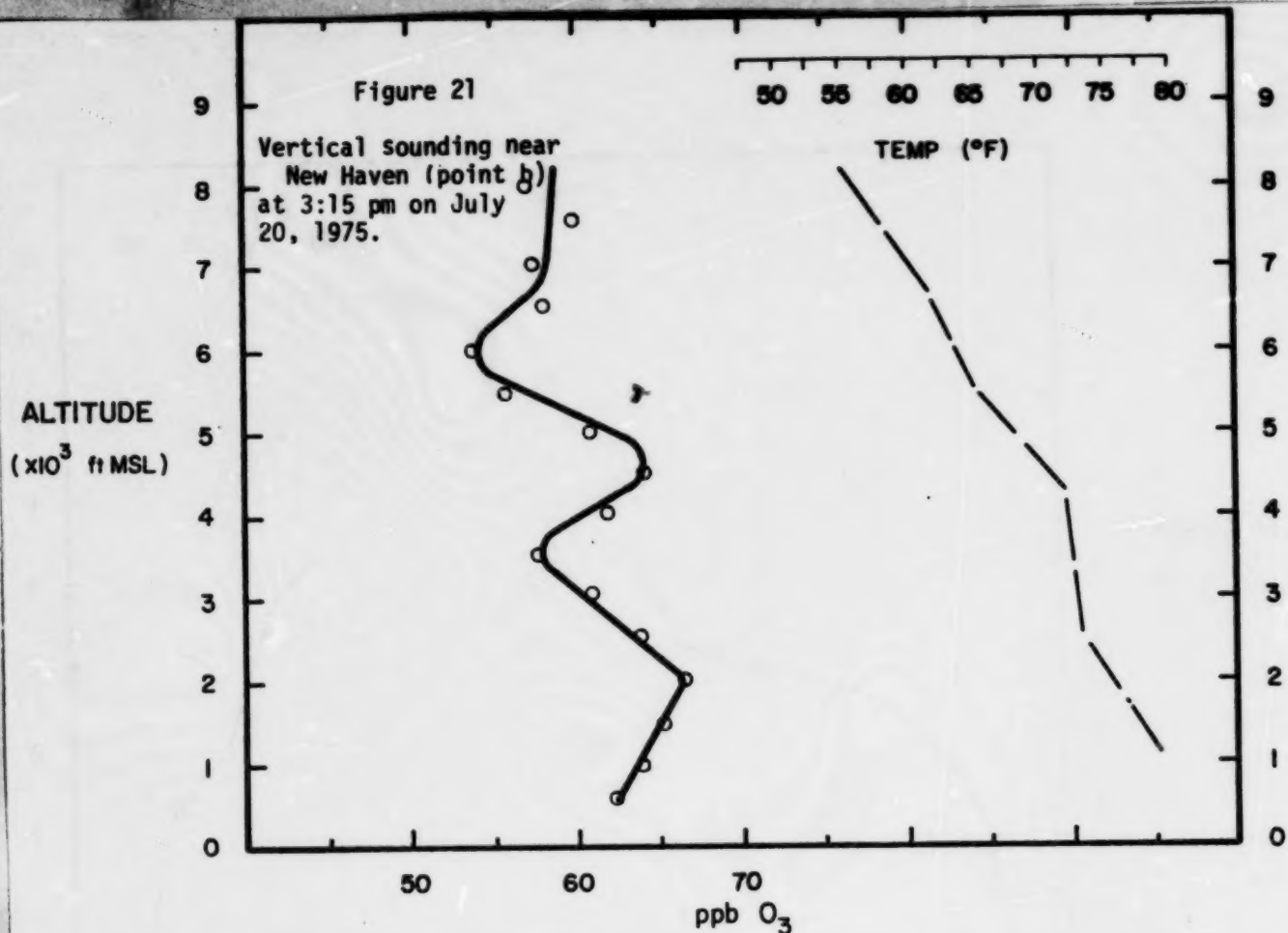
Figure 20. Flight #6 on July 20, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 2:35 to 4:32 PM

Leg ab: 2:35 - 2:55 at ~1000' MSL
 b: 2:56 - 3:44 spiral ascent to 10000' and descent to 1000'
 bc: 3:45 - 4:32 at 1000'
 ca: 4:00 - 4:32 slant ascent to 5000' and spiral down over Groton

WIND: 220° at 15 mph (Groton)

WEATHER: Sunny, hot and humid



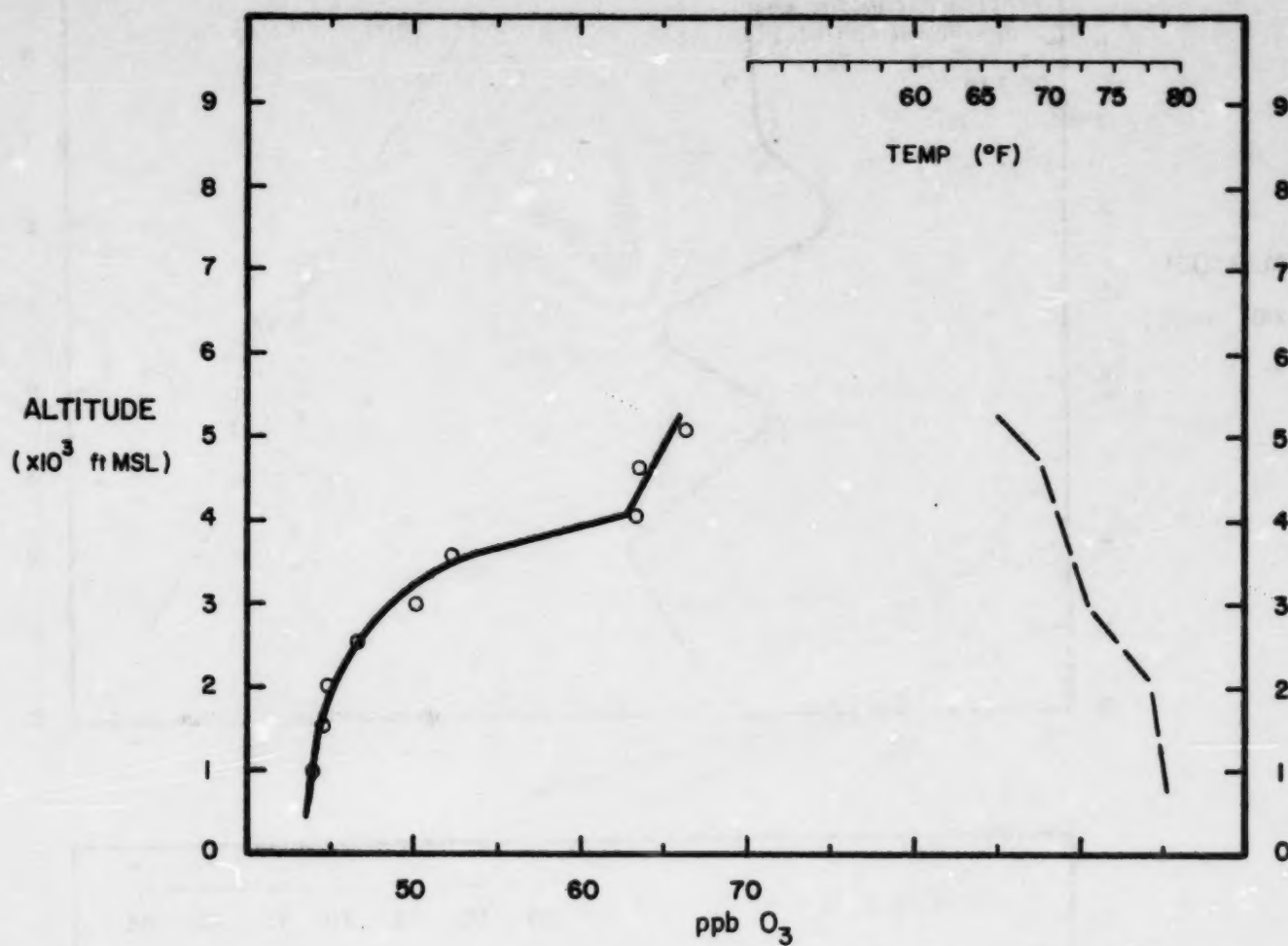
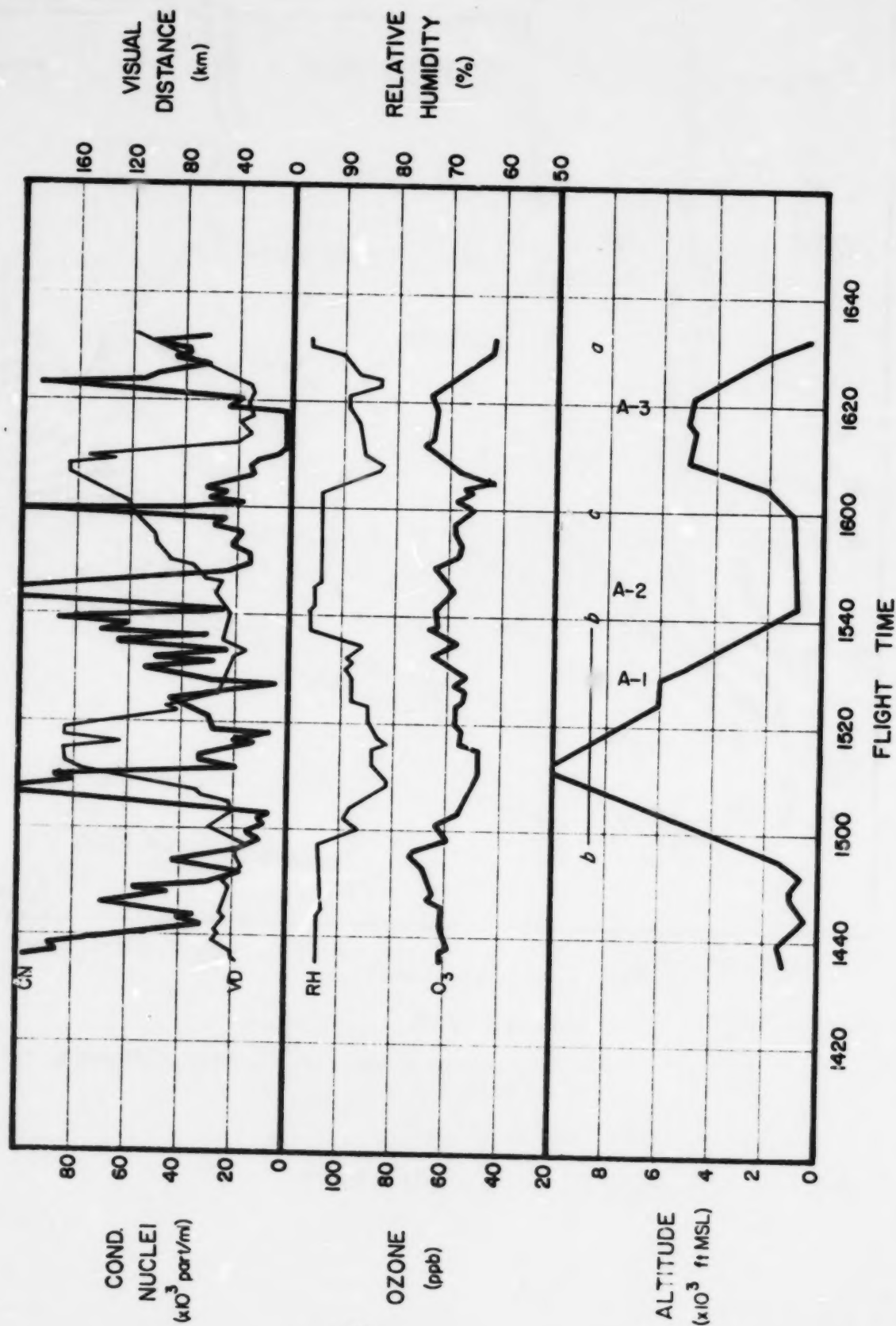


Figure 23. Vertical ozone and temperature profiles near Groton (point a) at 4:25 pm on July 20, 1975.

Figure 24. Plot of aircraft data recorded during flight #6 on July 20, 1975.



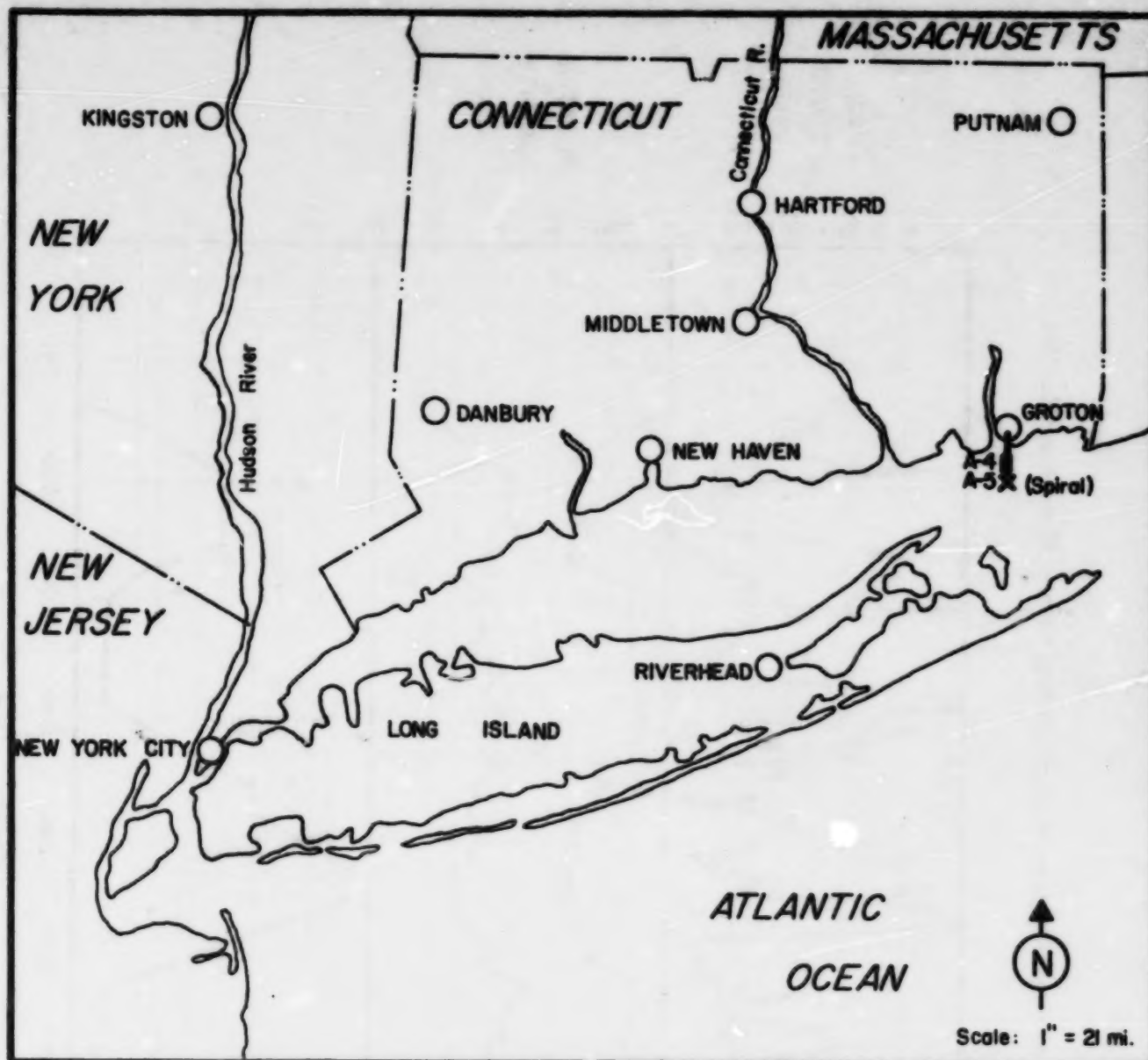


Figure 25. Flight #7 on July 20, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 7:30 to 8:30 PM

Flight consisted of spiral climb to 9000' followed by spiral descent and landing

WIND: 220° at 10 mph

WEATHER: Partly cloudy and warm

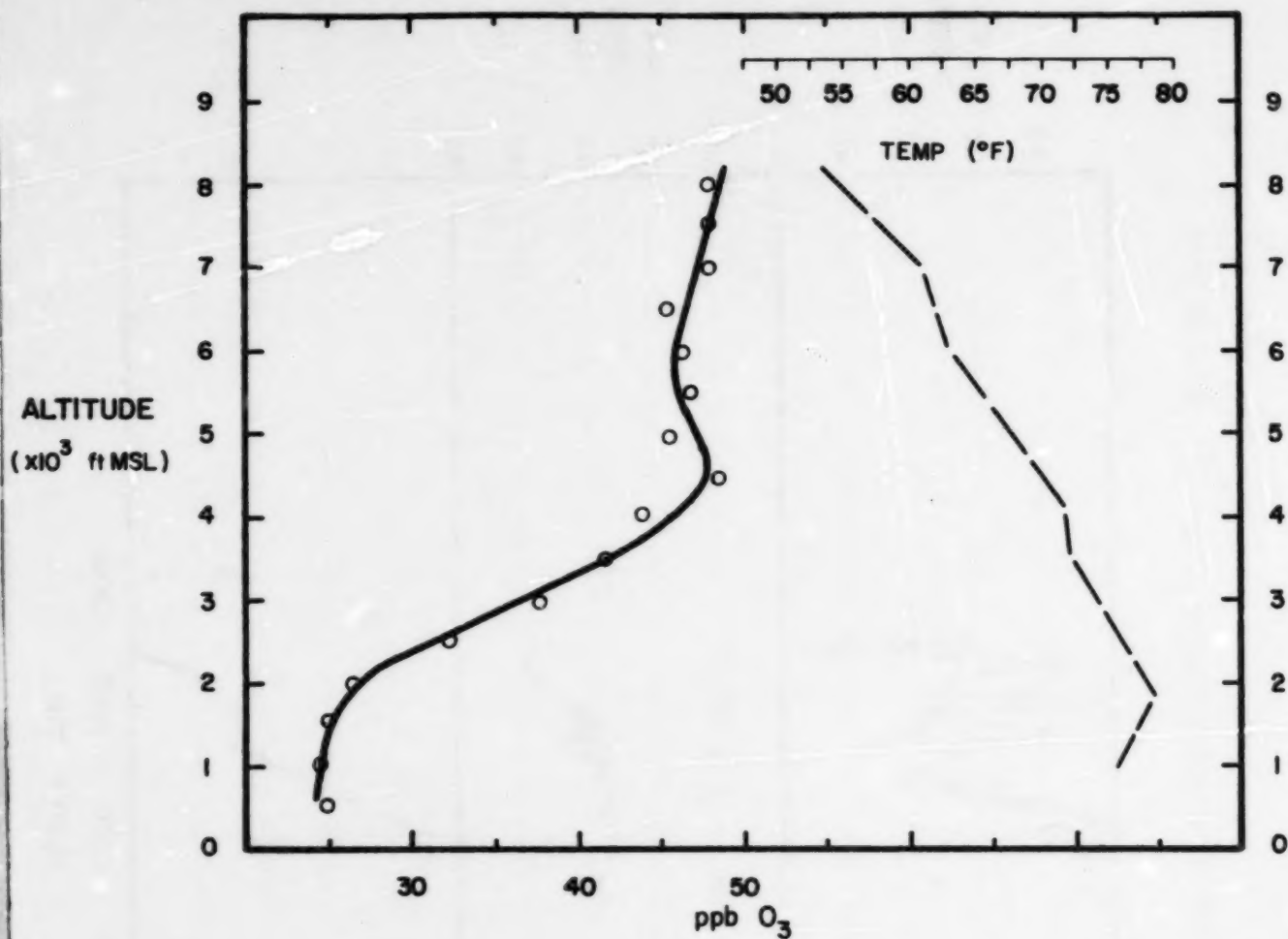
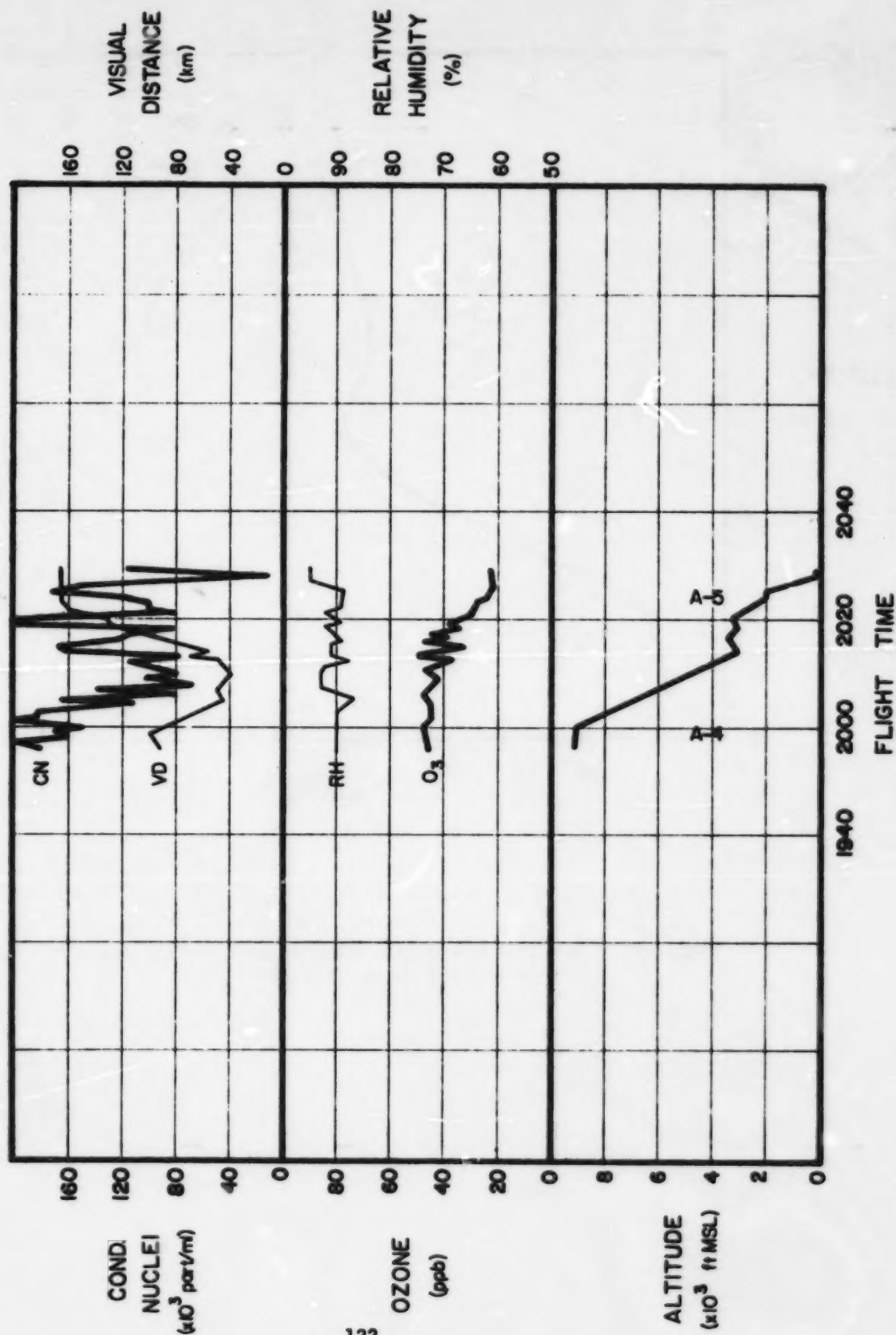


Figure 26. Vertical ozone and temperature profiles south of Groton at 8:15 pm on July 20, 1975.

Figure 27. Plot of aircraft data recorded during flight #7 on July 20, 1975.



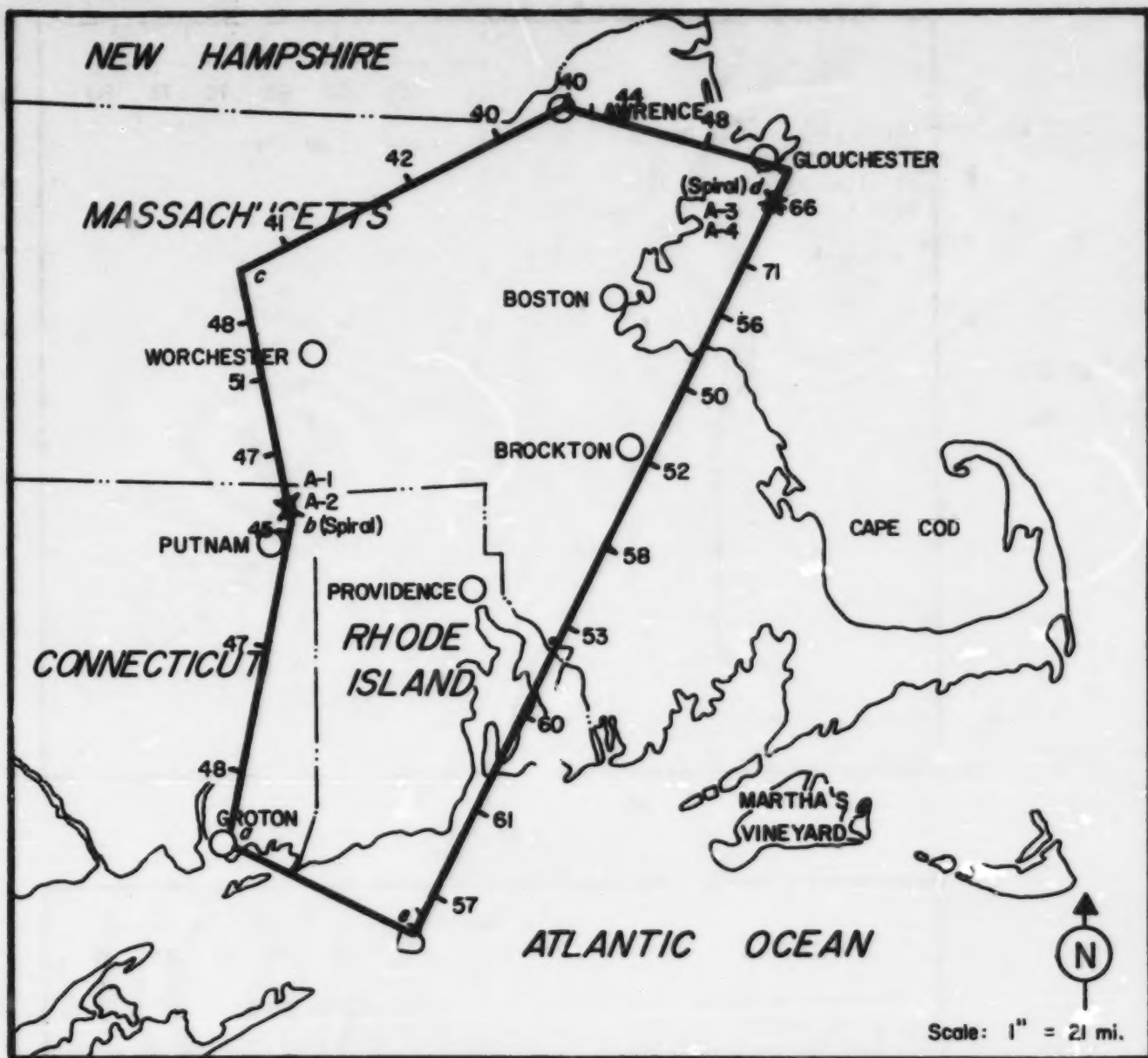


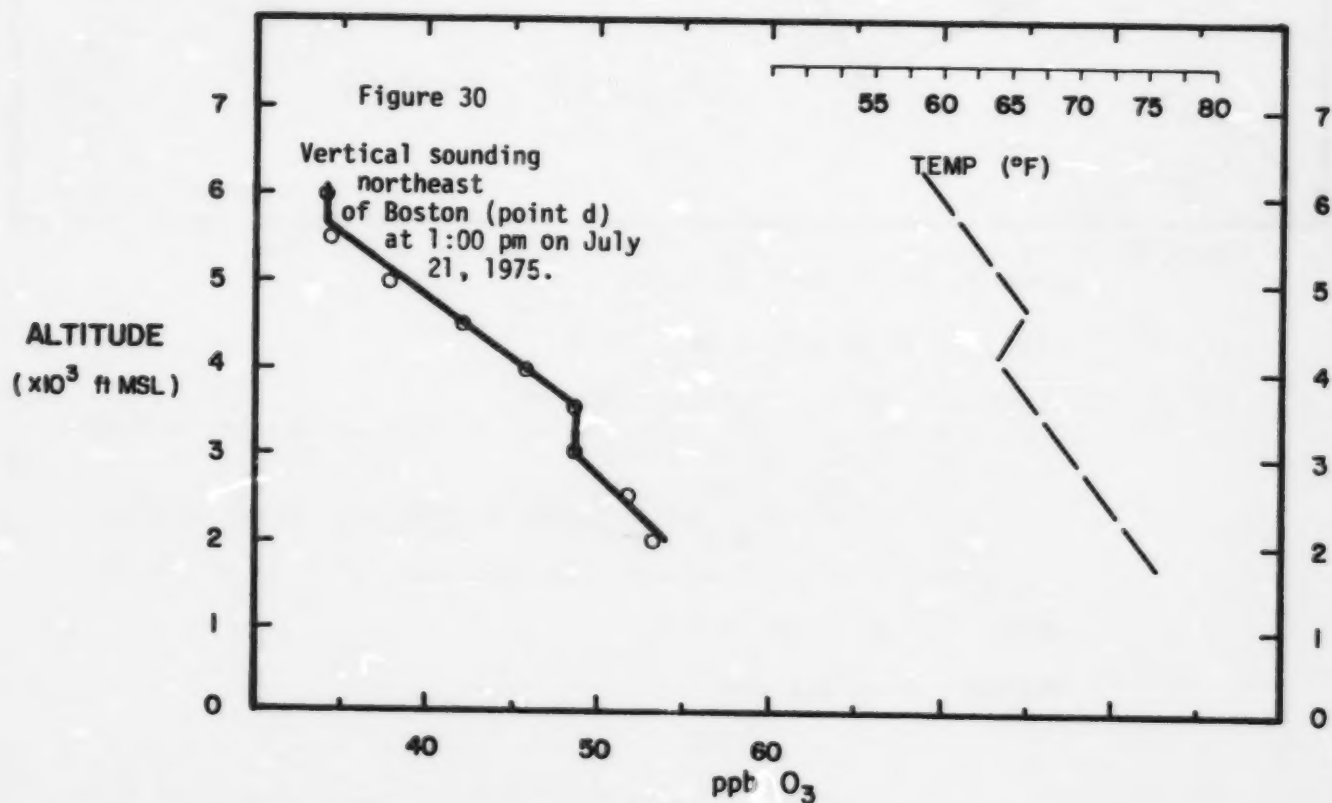
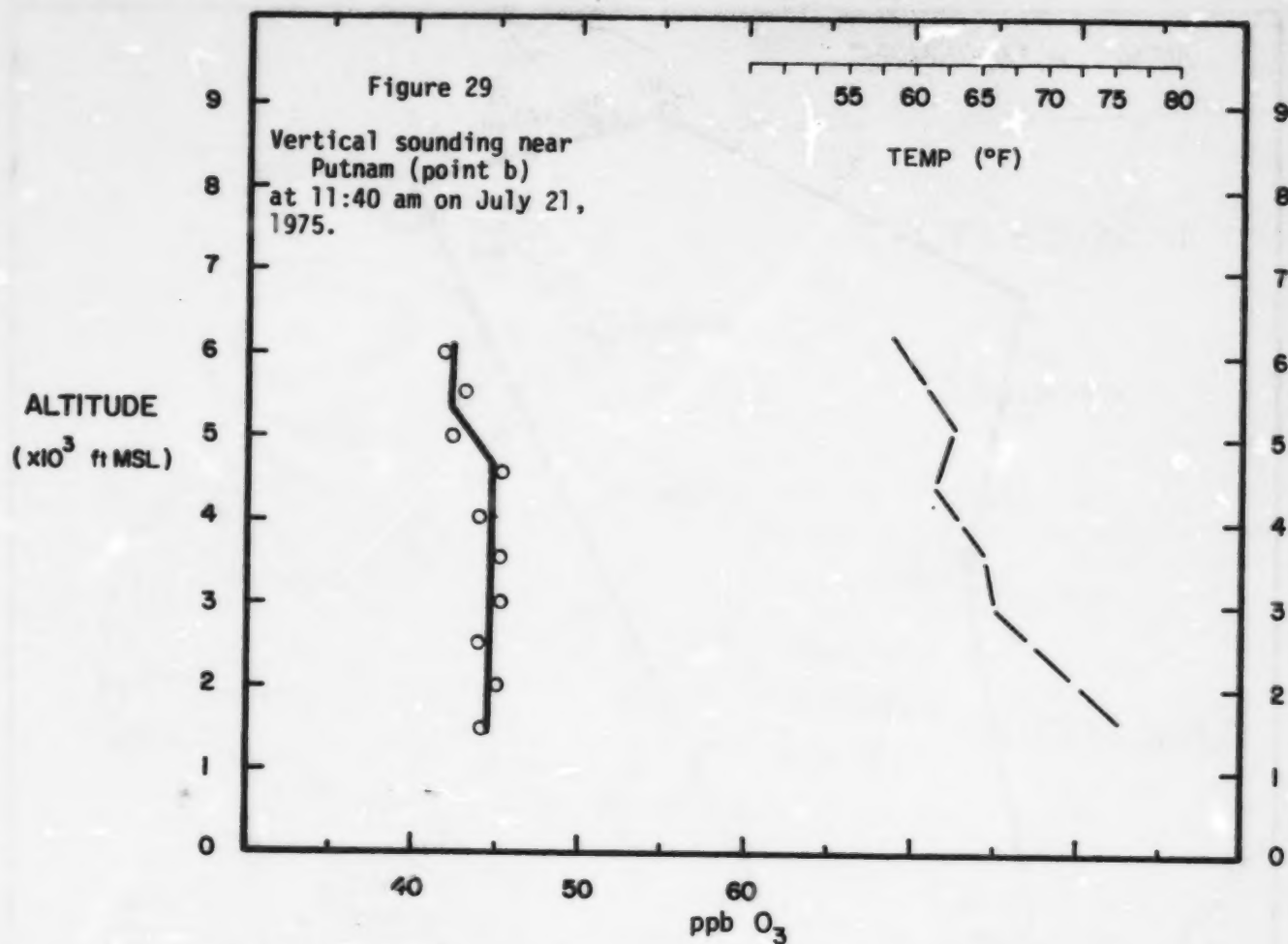
Figure 28. Flight #8 on July 21, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 11:00 AM to 2:15 PM

Leg ab: 11:00 - 11:30 at ~1500' MSL
 b: 11:31 - 11:51 spiral ascent to 6000' and descent to 2000'
 bc: 11:52 - 12:11 at 2000'
 cd: 12:12 - 12:43 at 2000'
 d: 12:44 - 1:11 spiral ascent to 6000' and descent to 1500'
 de: 1:11 - 1:58 at 1500'
 ea: 1:59 - 2:15 between 1000' and 3000'

WIND: 230° at 15 mph (Groton)

WEATHER: Sunny and warm



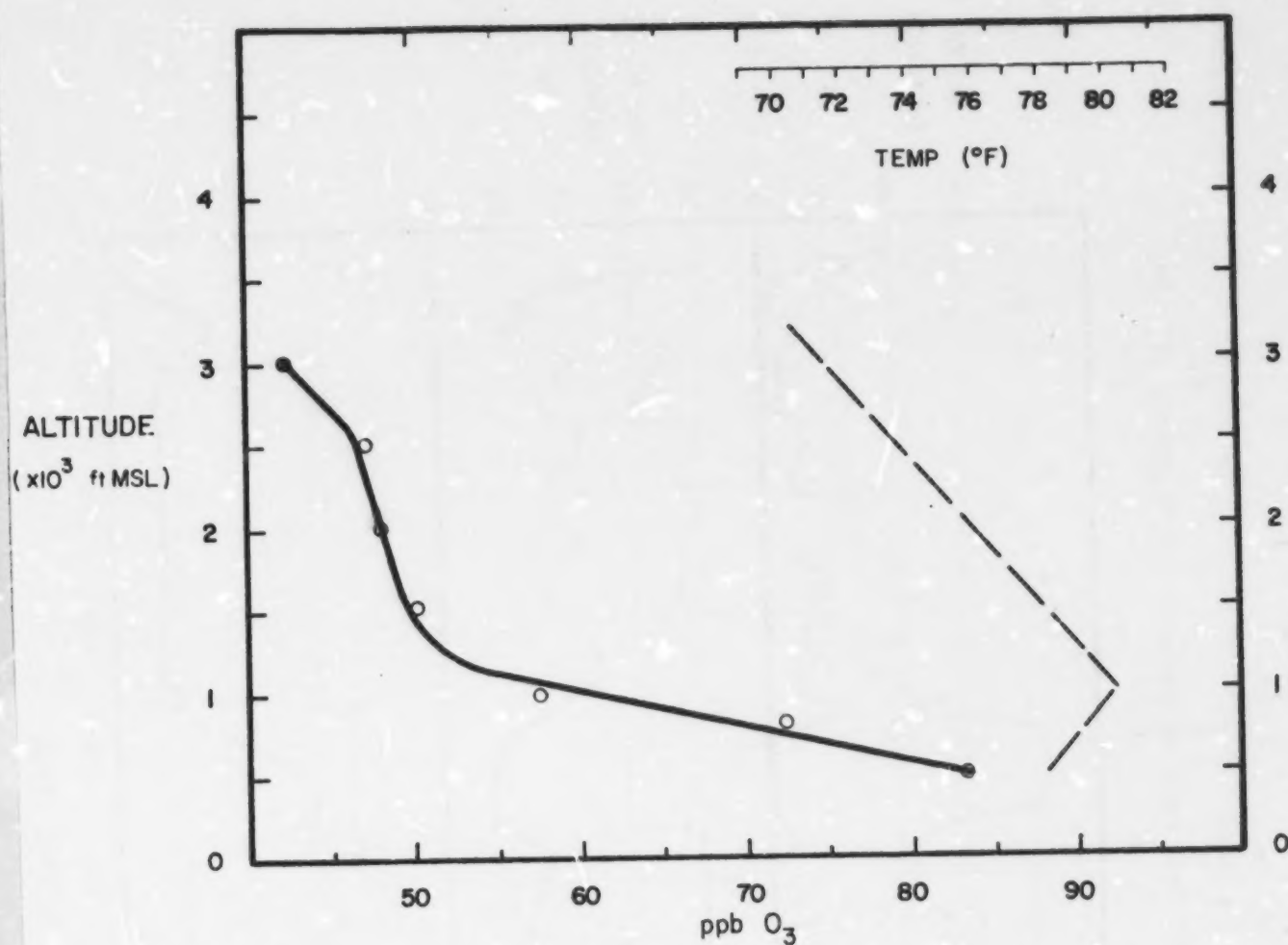
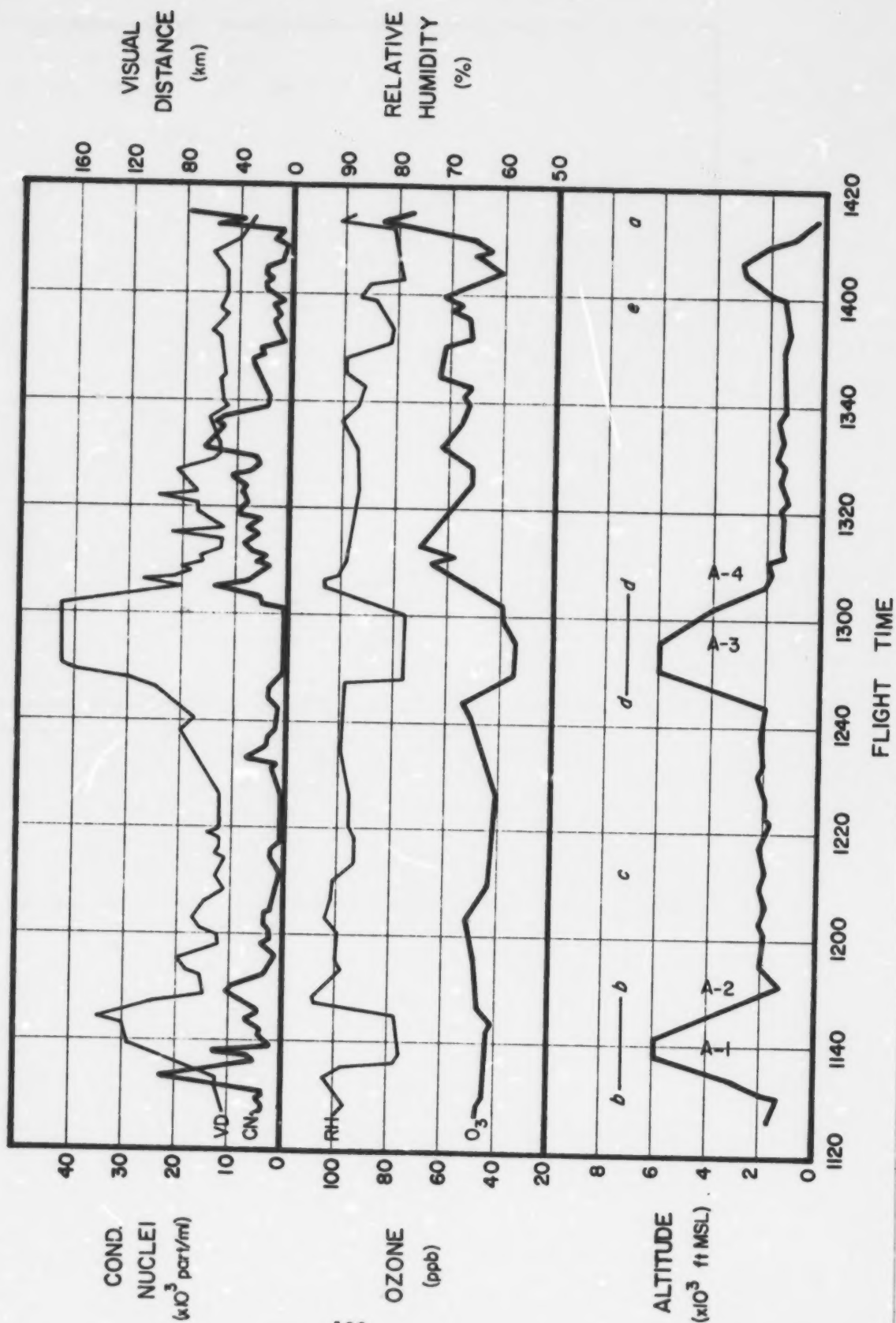


Figure 31. Vertical ozone and temperature profiles on descent into Trumbull Airport (point a) at 2:10 pm on July 21, 1975.

Figure 32. Plot of aircraft data recorded during flight #8 on July 21, 1975.



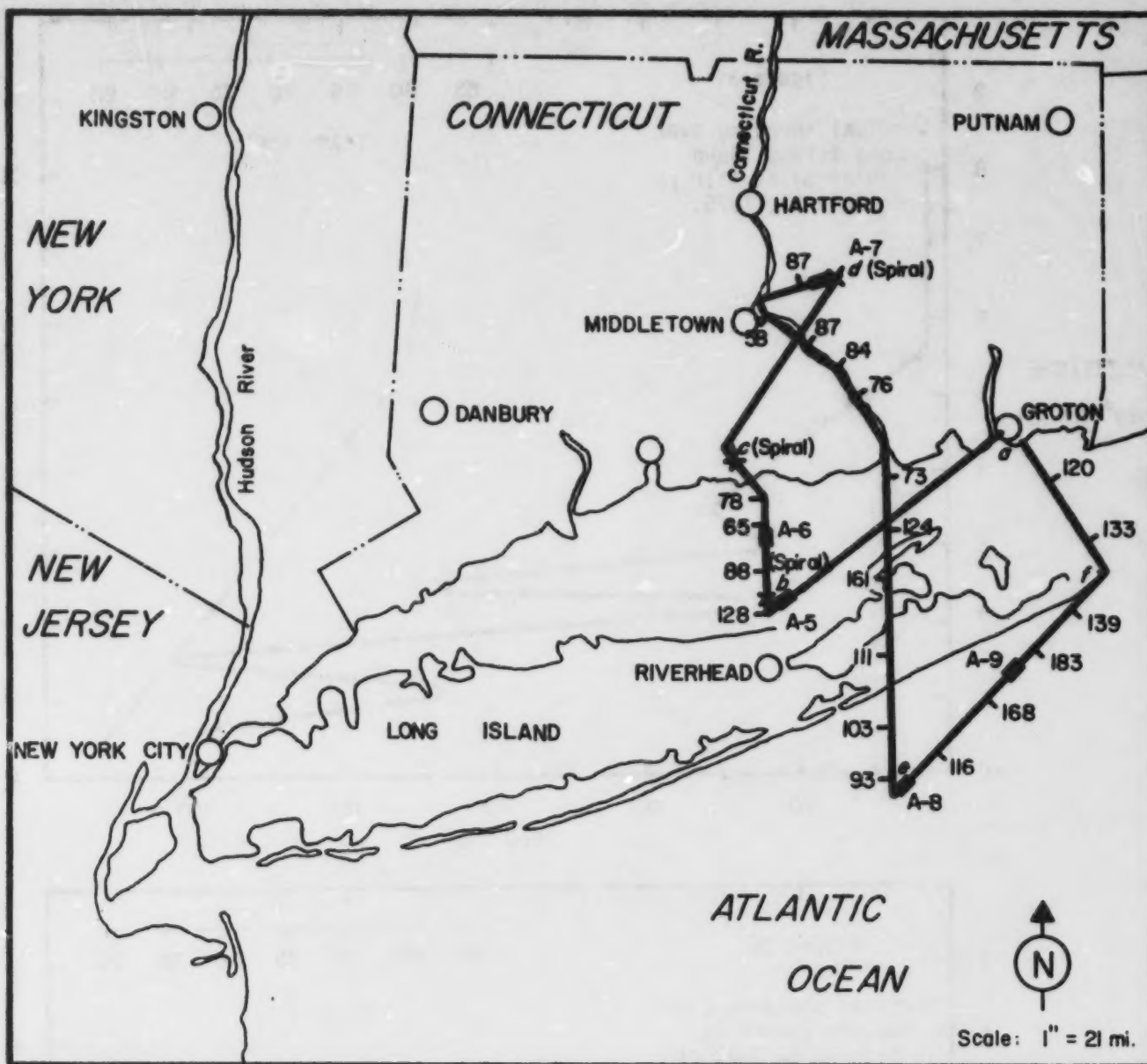


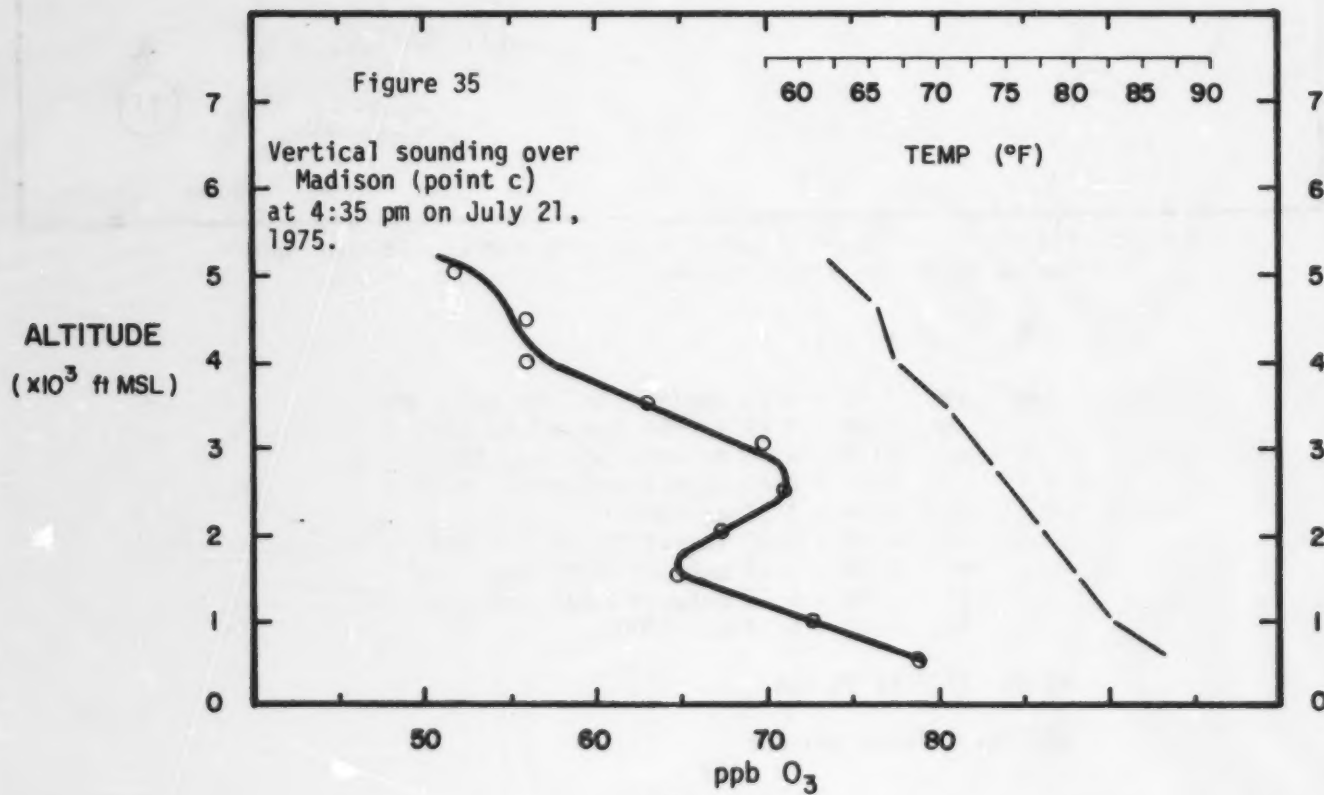
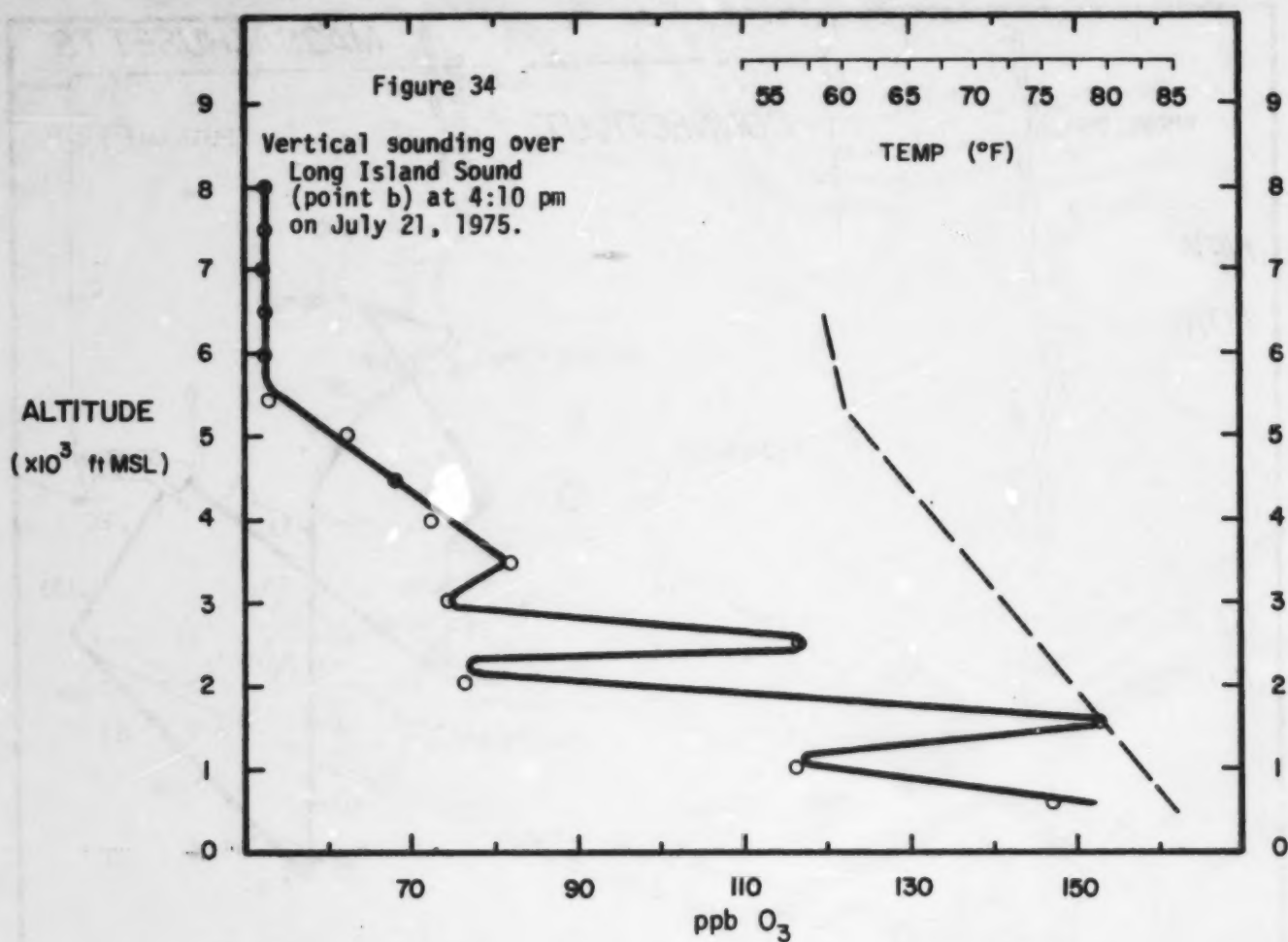
Figure 33. Flight #9 on July 21, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 3:45 to 6:14 PM

Leg	ab:	3:45 - 4:05 angle ascent to 6000' MSL
	b:	4:06 - 4:19 spiral descent to 500'
	bc:	4:20 - 4:30 between 500' and 2000'
	c:	4:31 - 4:43 spiral ascent to 5000'
	cd:	4:44 - 4:54 at 5000'
	d:	4:55 - 5:05 spiral descent to 500'
	de:	5:06 - 5:47 between 1000' and 1500'
	ef:	5:48 - 6:00 between 1000' and 2000'
	fa:	6:01 - 6:14 at ~1000'

WIND: 230° at 15 mph

WEATHER: Sunny and hot



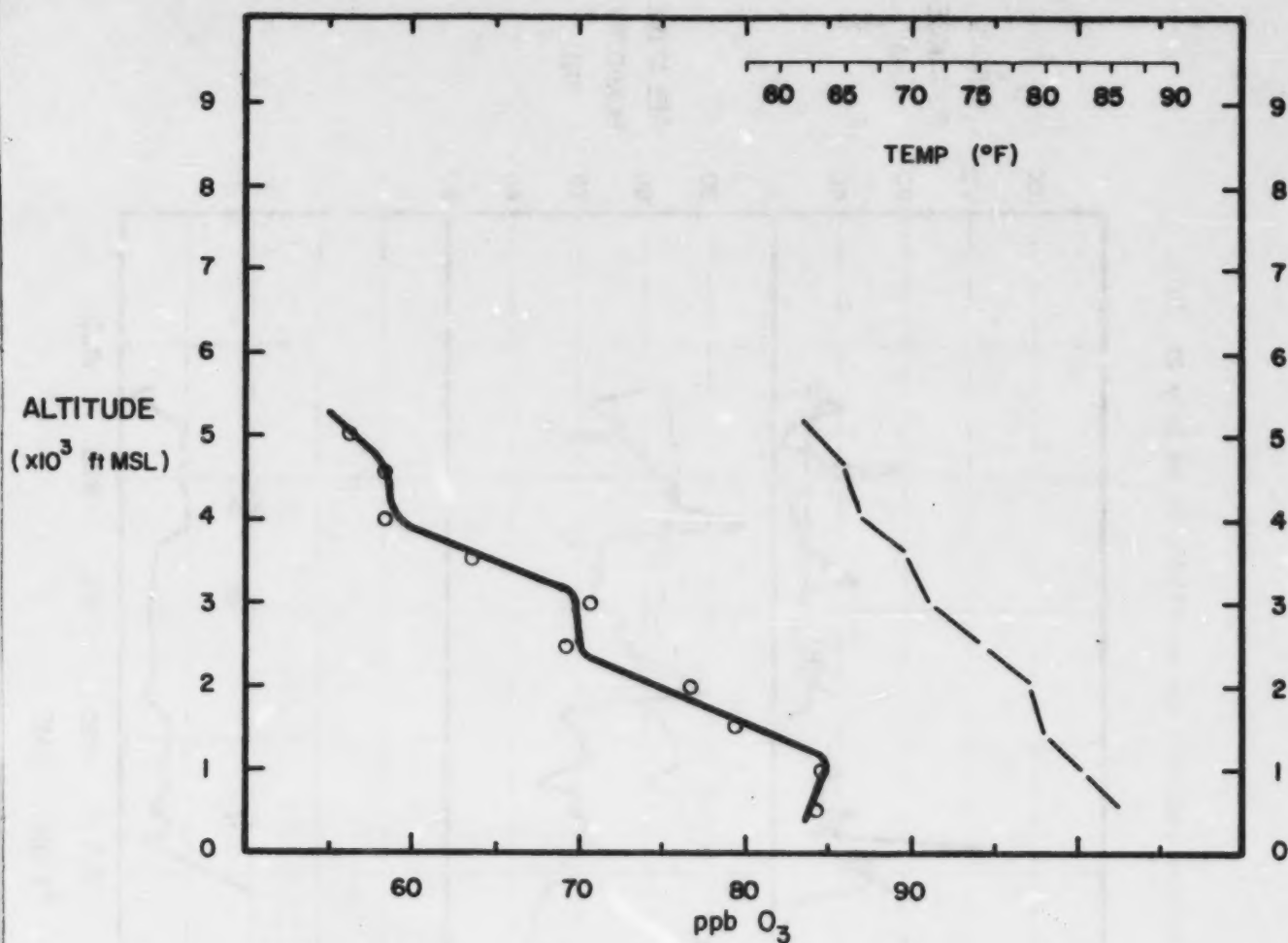
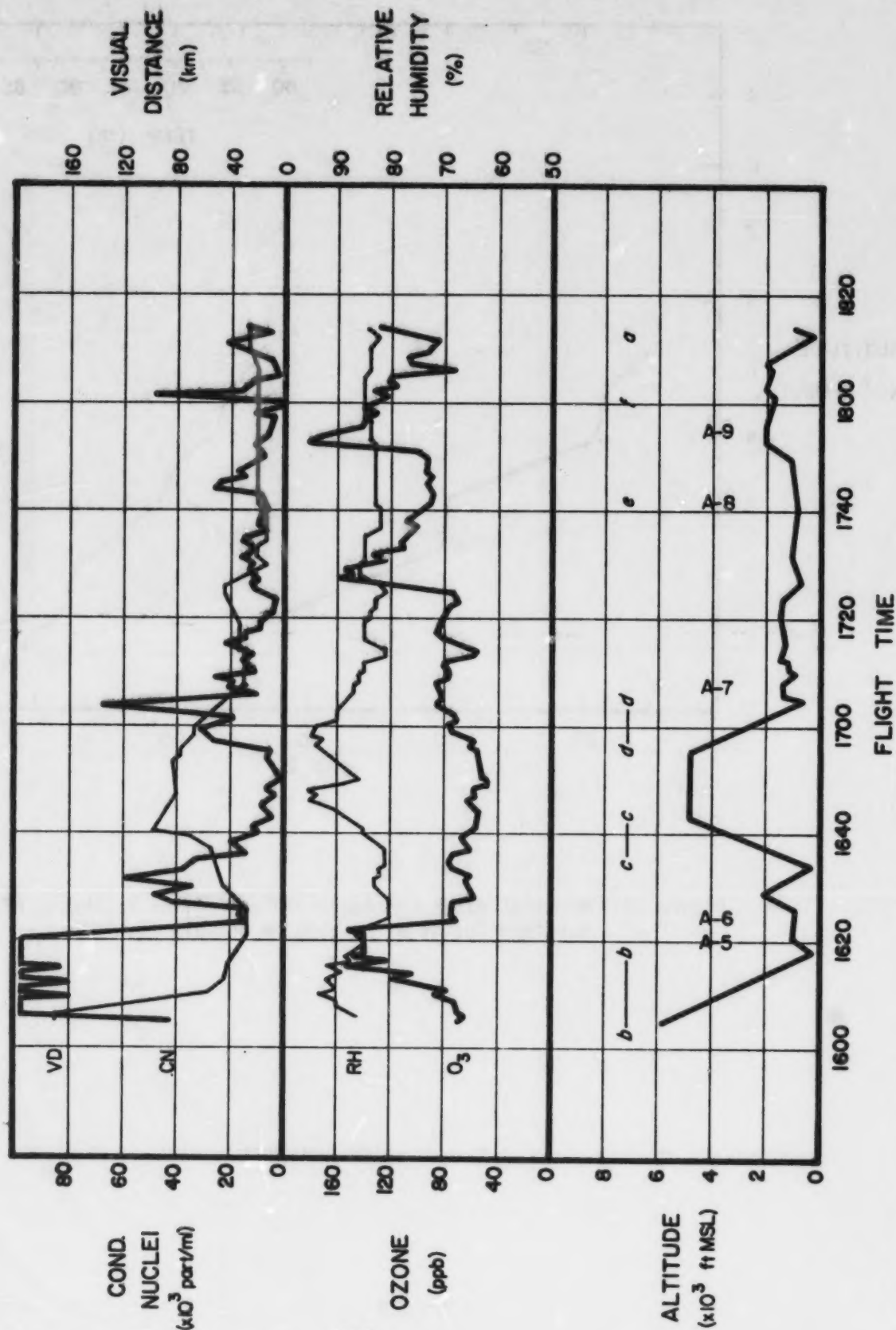


Figure 36. Vertical ozone and temperature profiles southeast of Hartford (point d) at 5:00 pm on July 21, 1975.

Figure 37. Plot of aircraft data recorded during flight #9 on July 21, 1975.



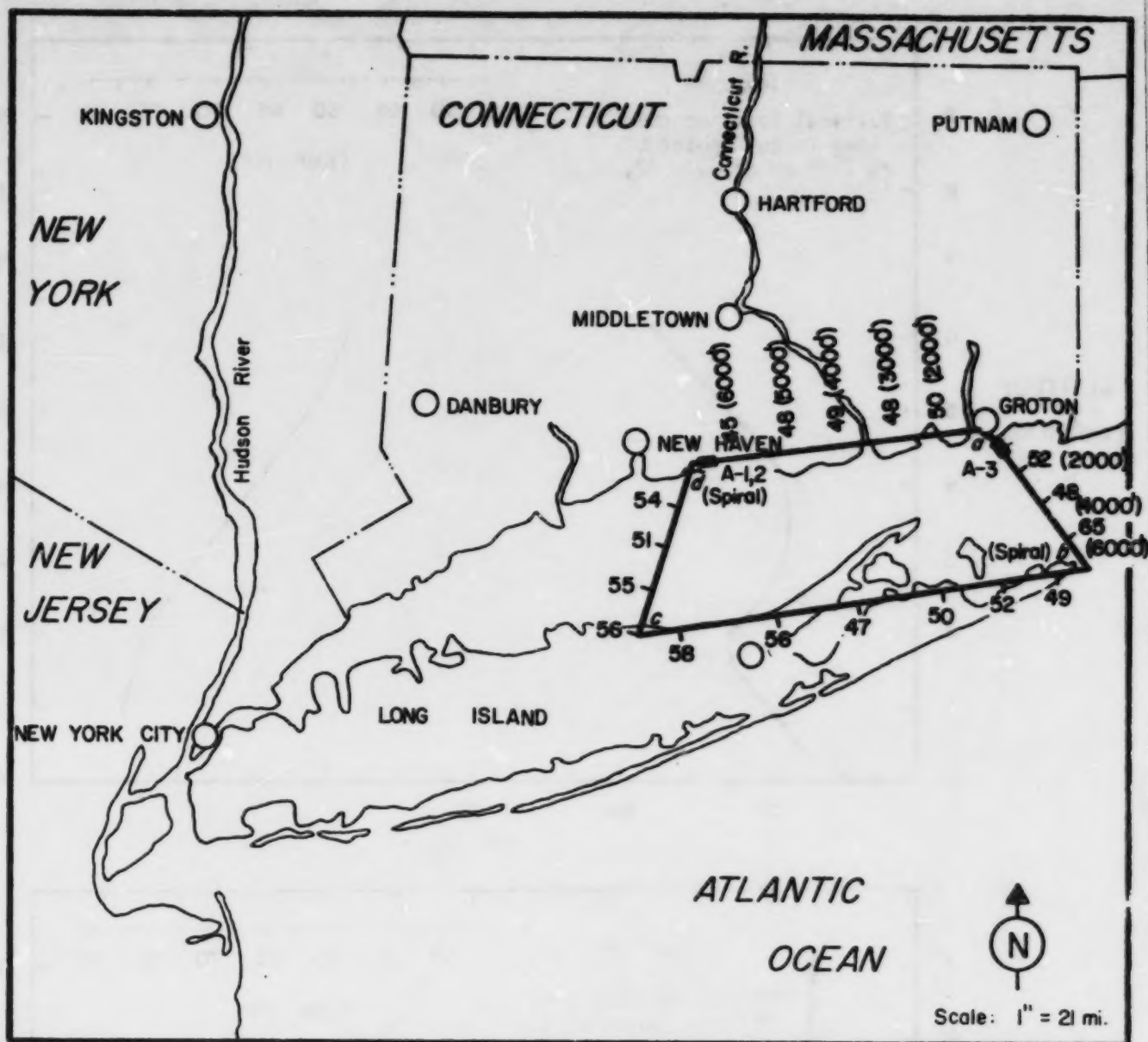


Figure 38. Flight #10 on July 22, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 7:35 AM to 9:15 AM

Leg ab: 7:35 - 7:47 angle ascent to 6000' MSL
 b: 7:48 - 8:02 spiral descent to 500'
 bc: 8:03 - 8:30 at ~ 1000'
 cd: 8:31 - 8:43 between 500' and 1000'
 d: 8:44 - 8:55 spiral ascent to 6500'
 da: 8:56 - 9:15 angle descent from 6500' to landing

WIND: 330° at 5 mph (Groton)

WEATHER: Sunny and warm

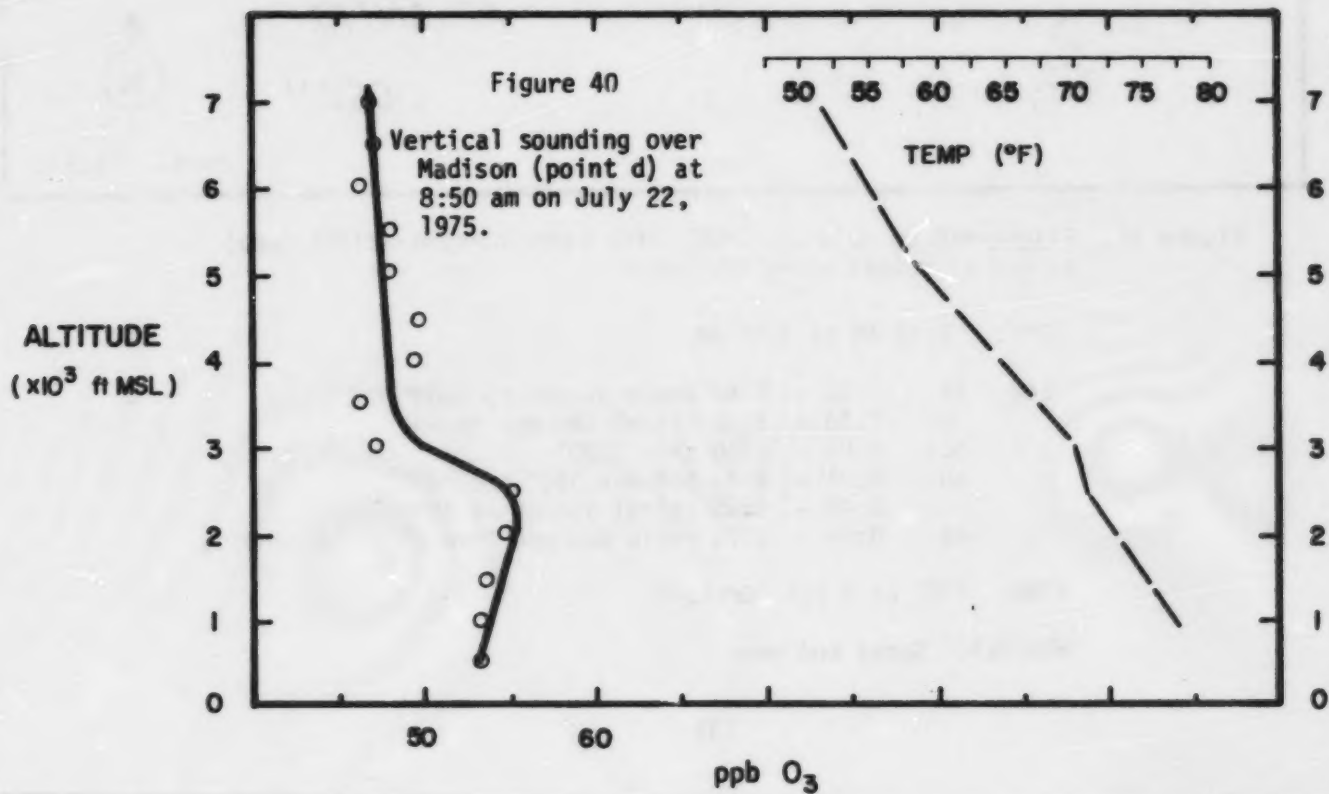
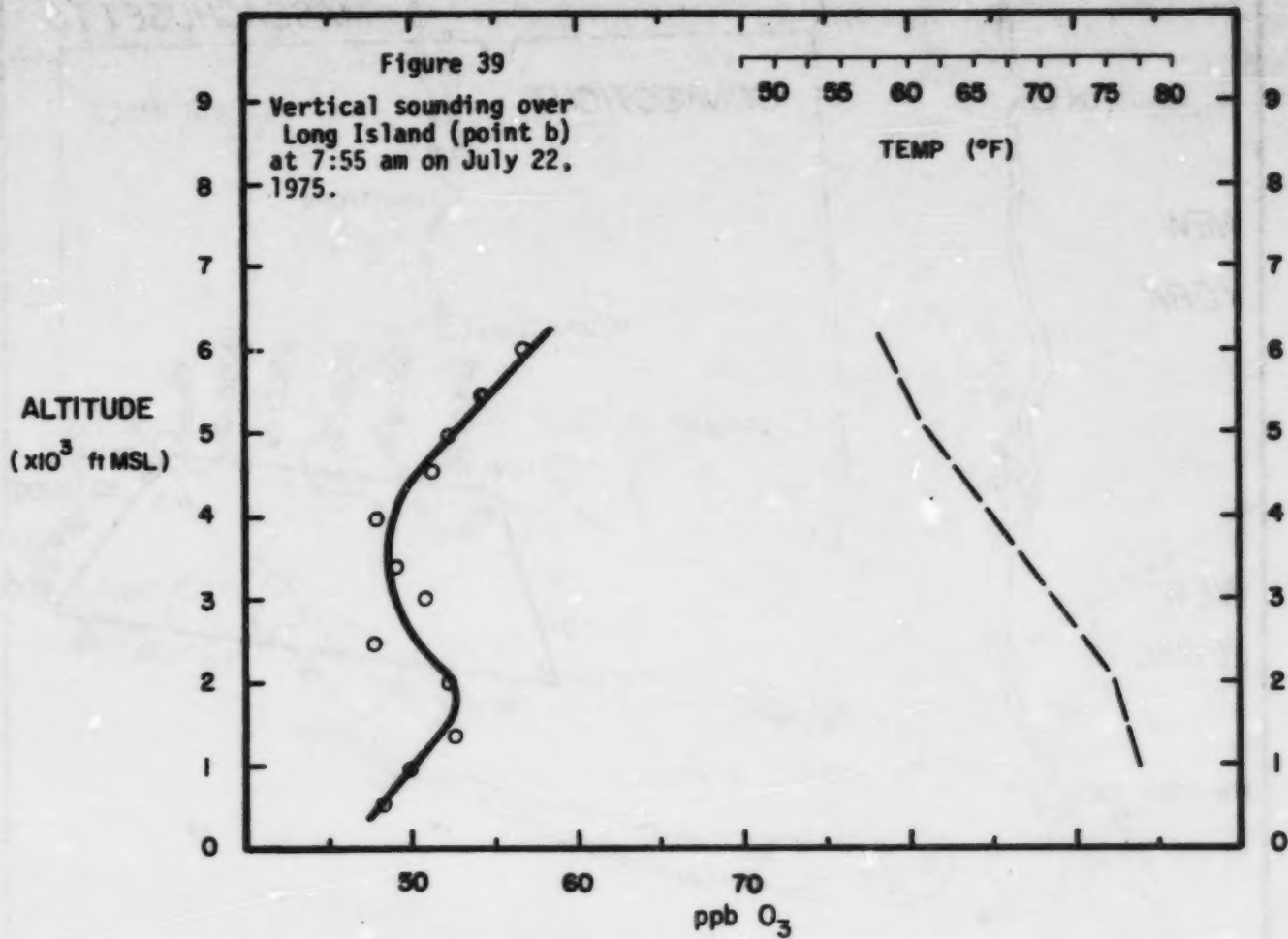
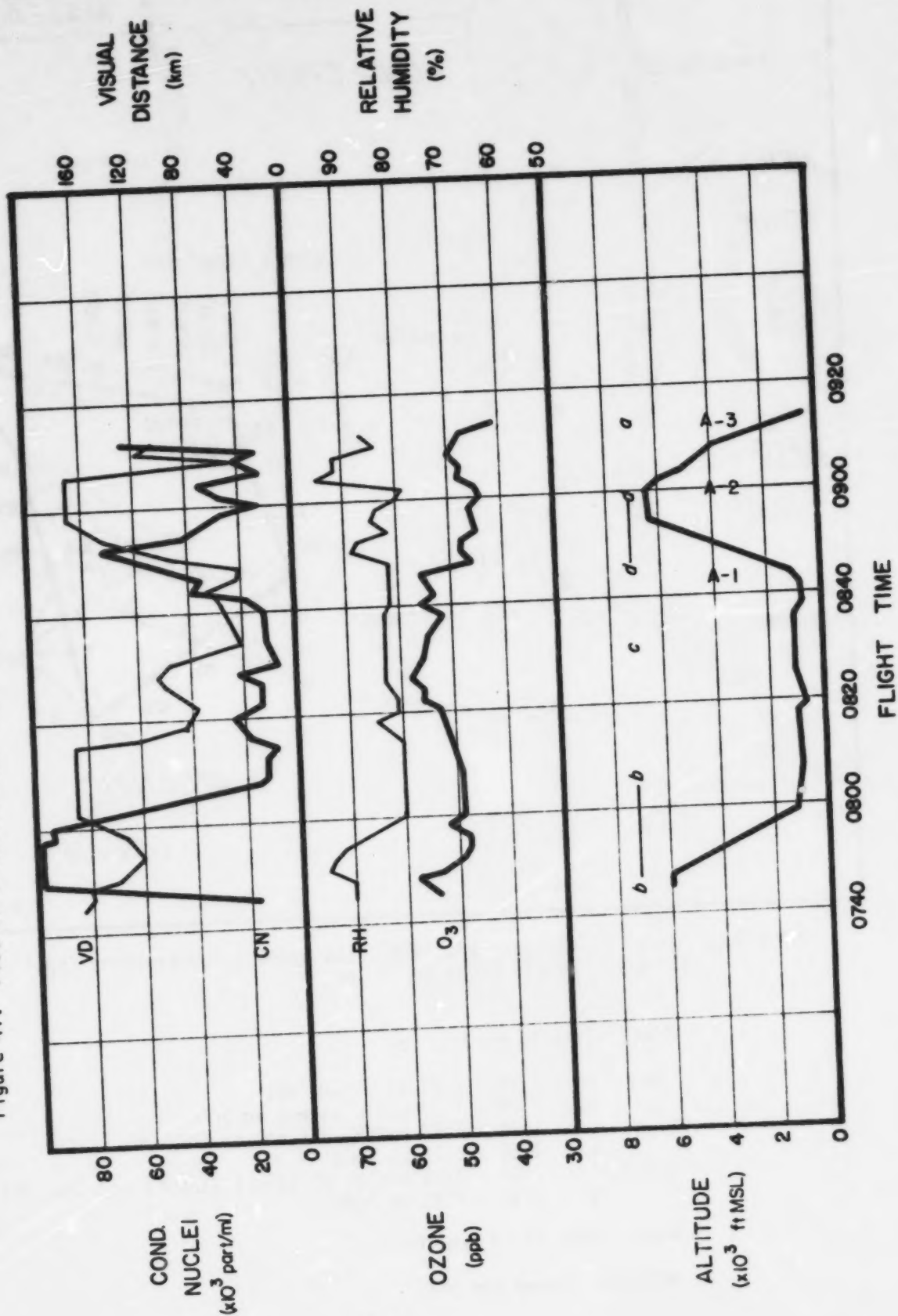


Figure 41. Plot of aircraft data recorded during flight #1N on July 22, 1975.



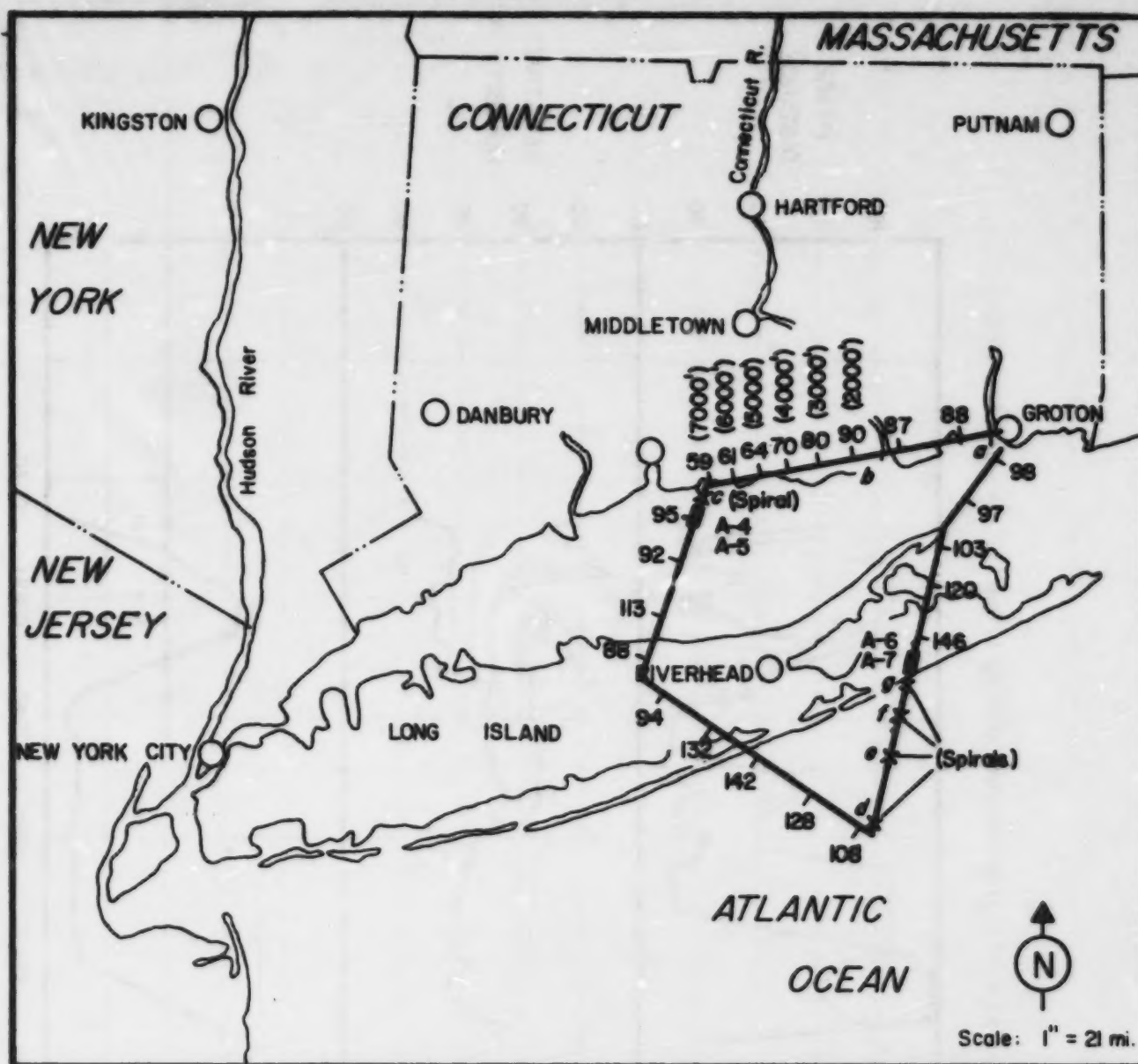


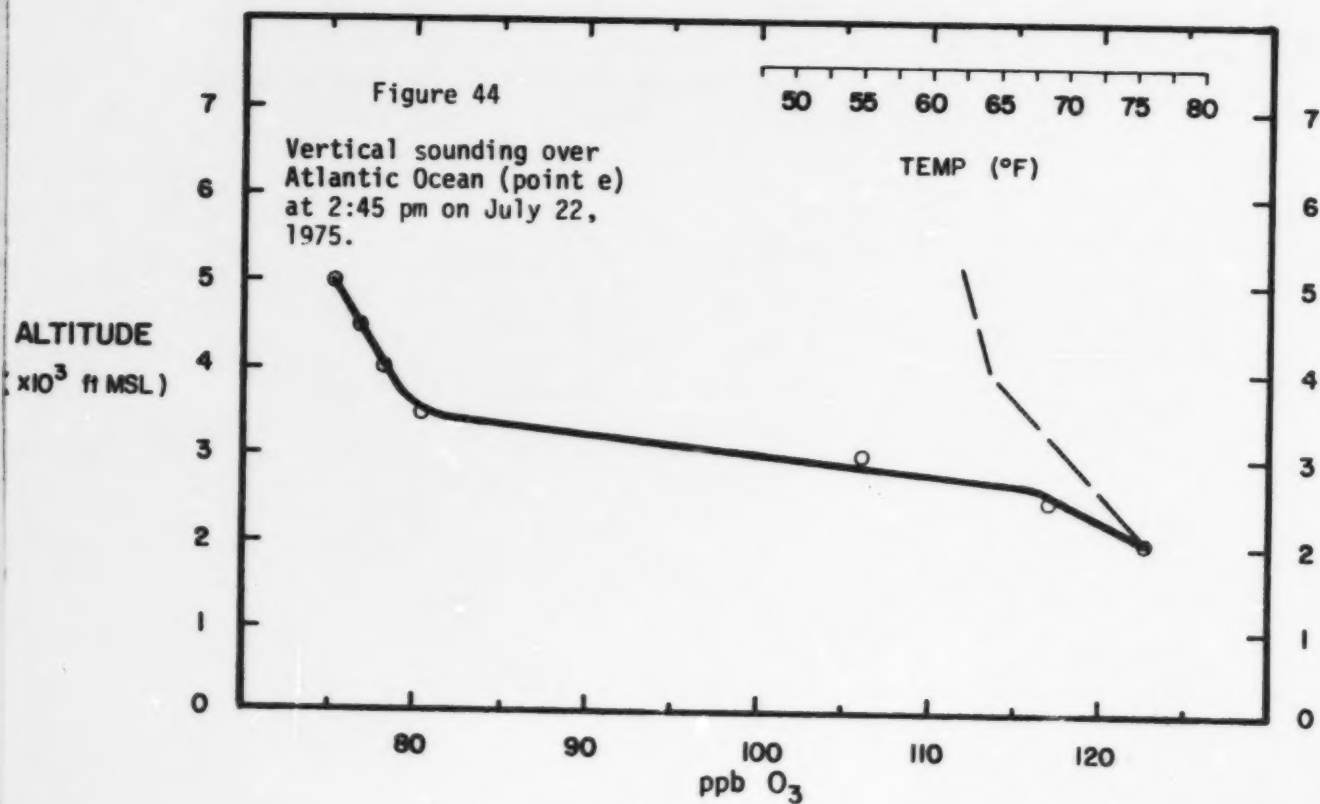
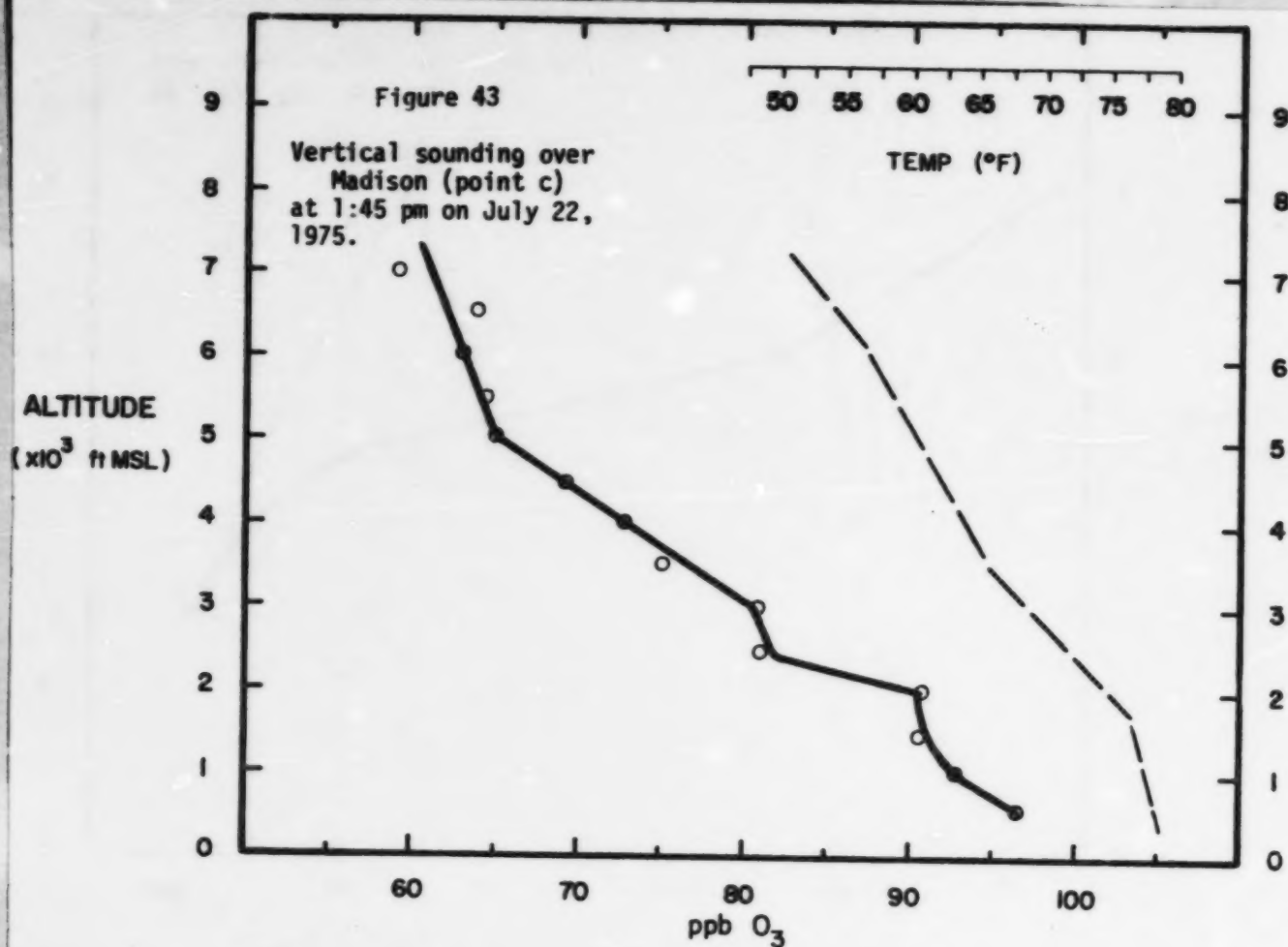
Figure 42. Flight #11 on July 22, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 1:15 PM to 3:55 PM

Leg ab: 1:15 - 1:21 at ~1000' MSL
 bc: 1:21 - 1:37 angle ascent to 7000'
 c: 1:38 - 1:57 spiral descent to 500'
 cd: 1:58 - 2:29 at 1000'
 d,e,f & g: 2:30 - 3:29 series of spiral ascents and descents (500' - 500')
 ga: 3:30 - 3:55 at 1000'

WIND: 240° at 10 mph (Groton)

WEATHER: Sunny and hot



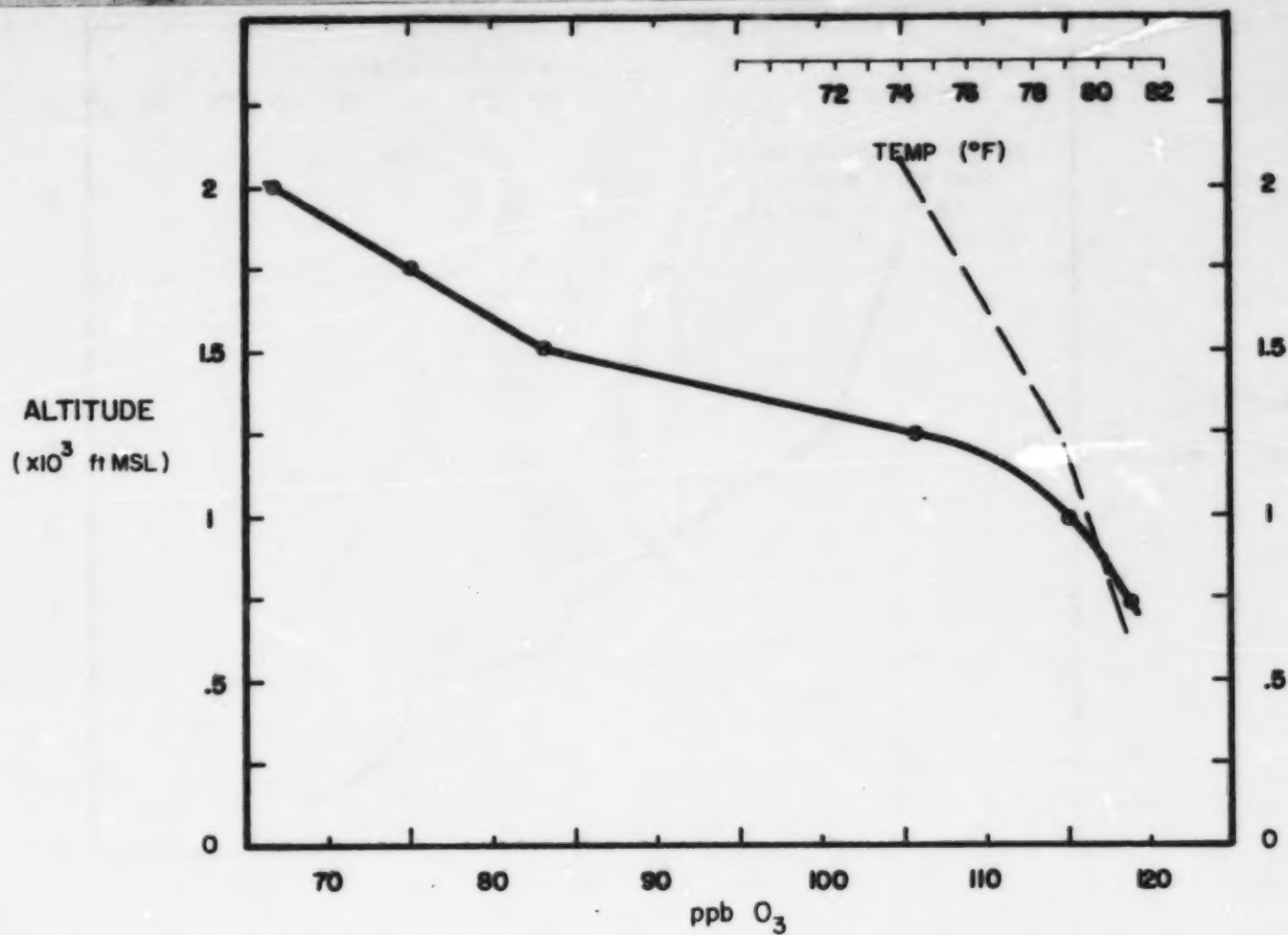


Figure 45. Vertical ozone and temperature profiles over Atlantic Ocean (point d) at 2:30 pm on July 22, 1975.

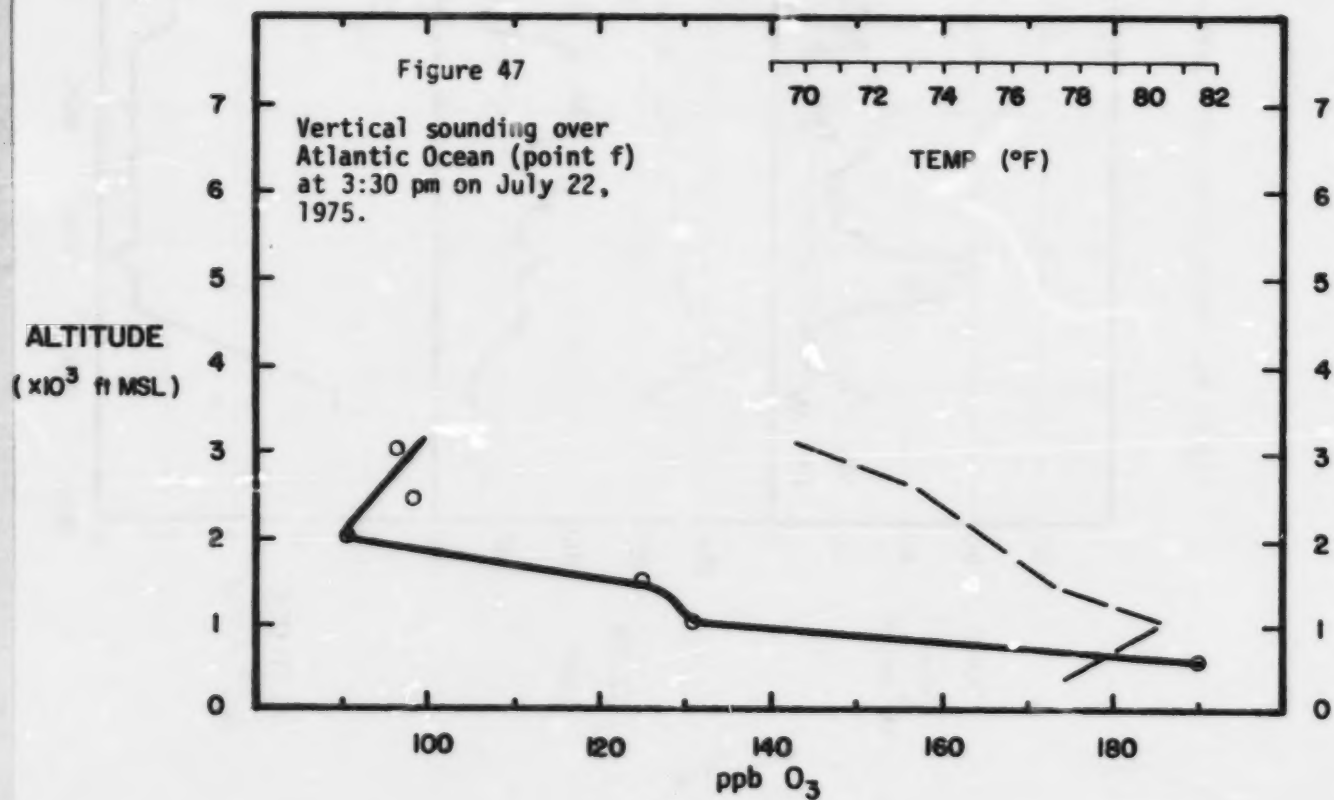
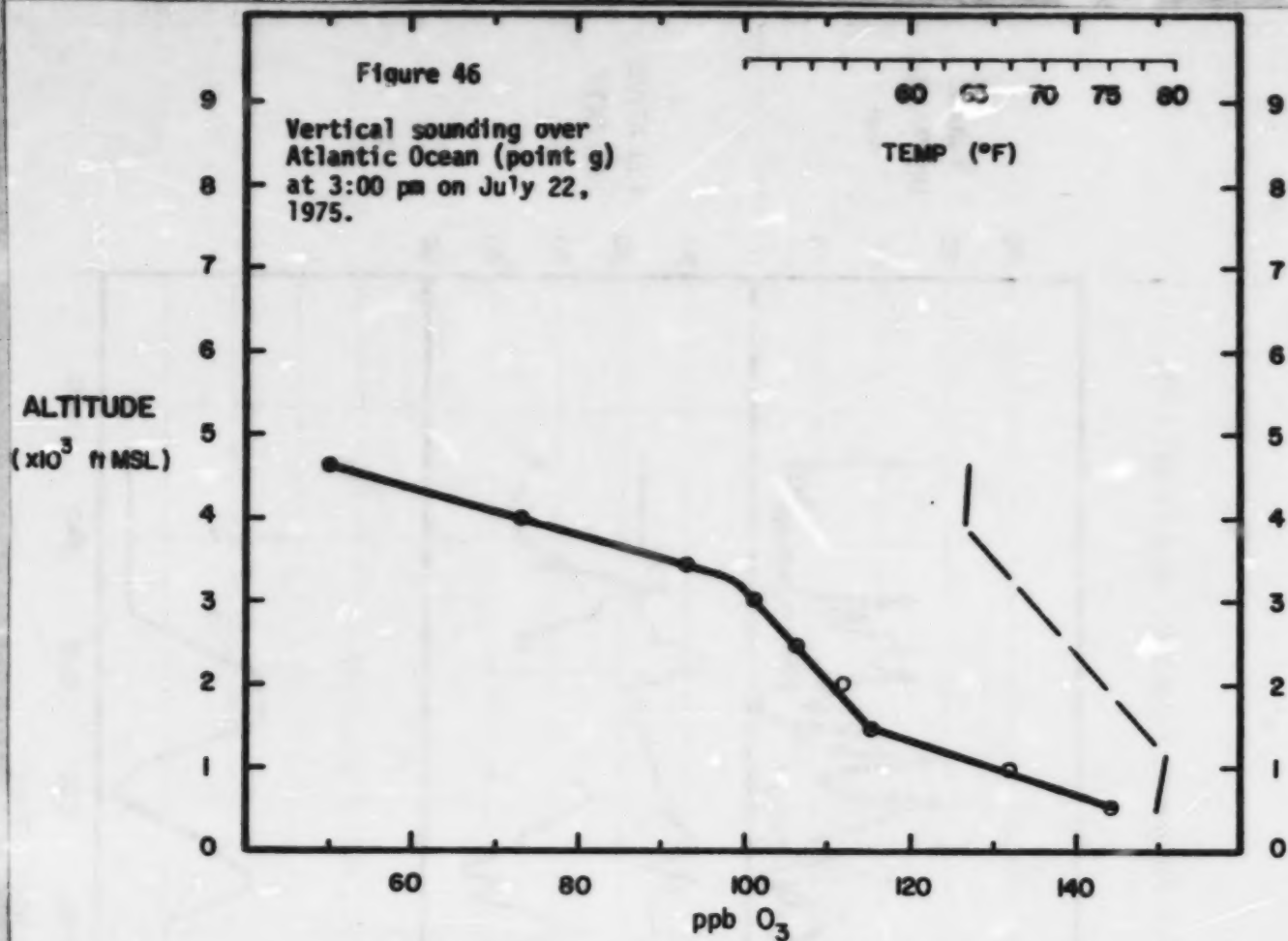
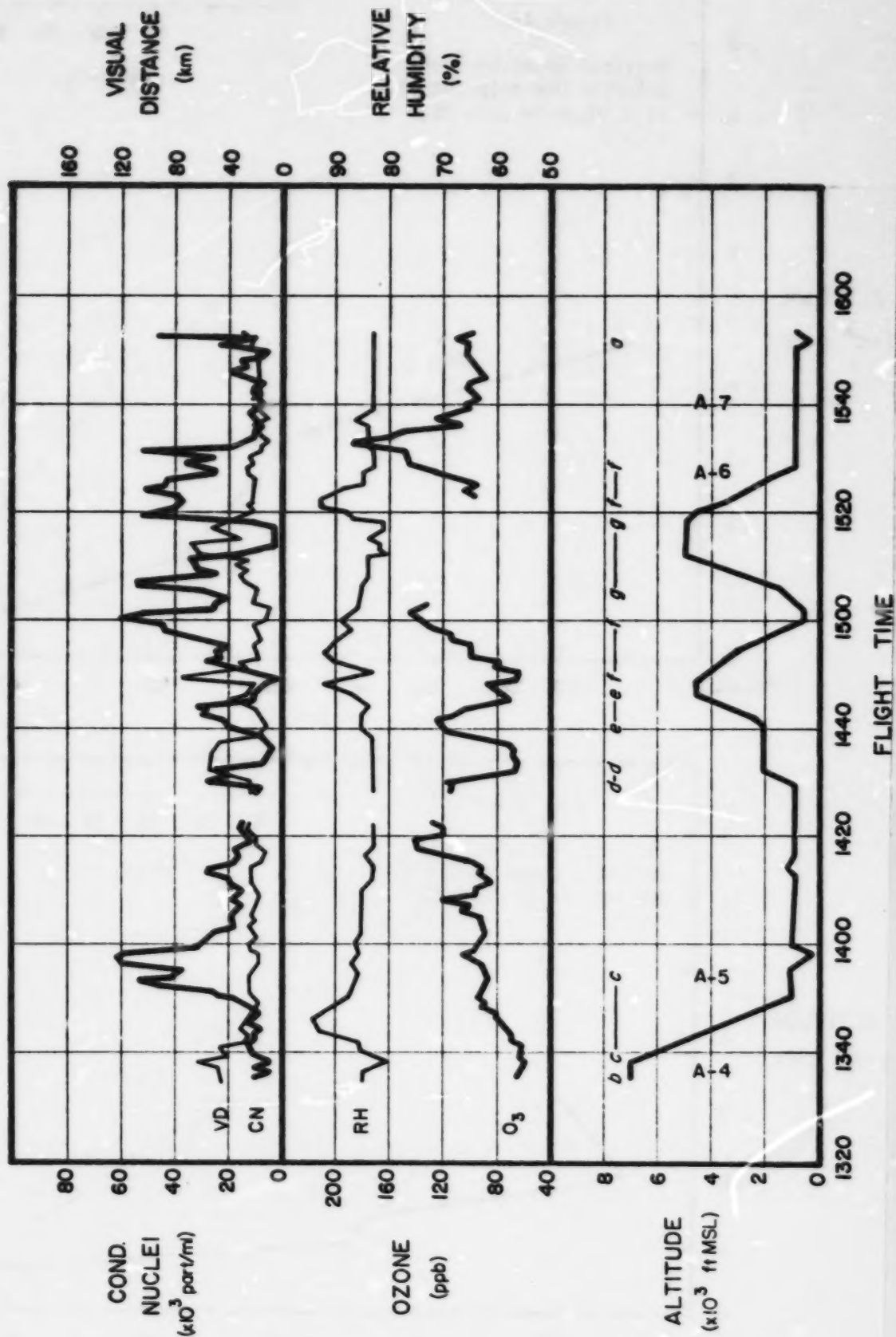


Figure 48. Plot of aircraft data recorded during flight #11 on July 22, 1975.



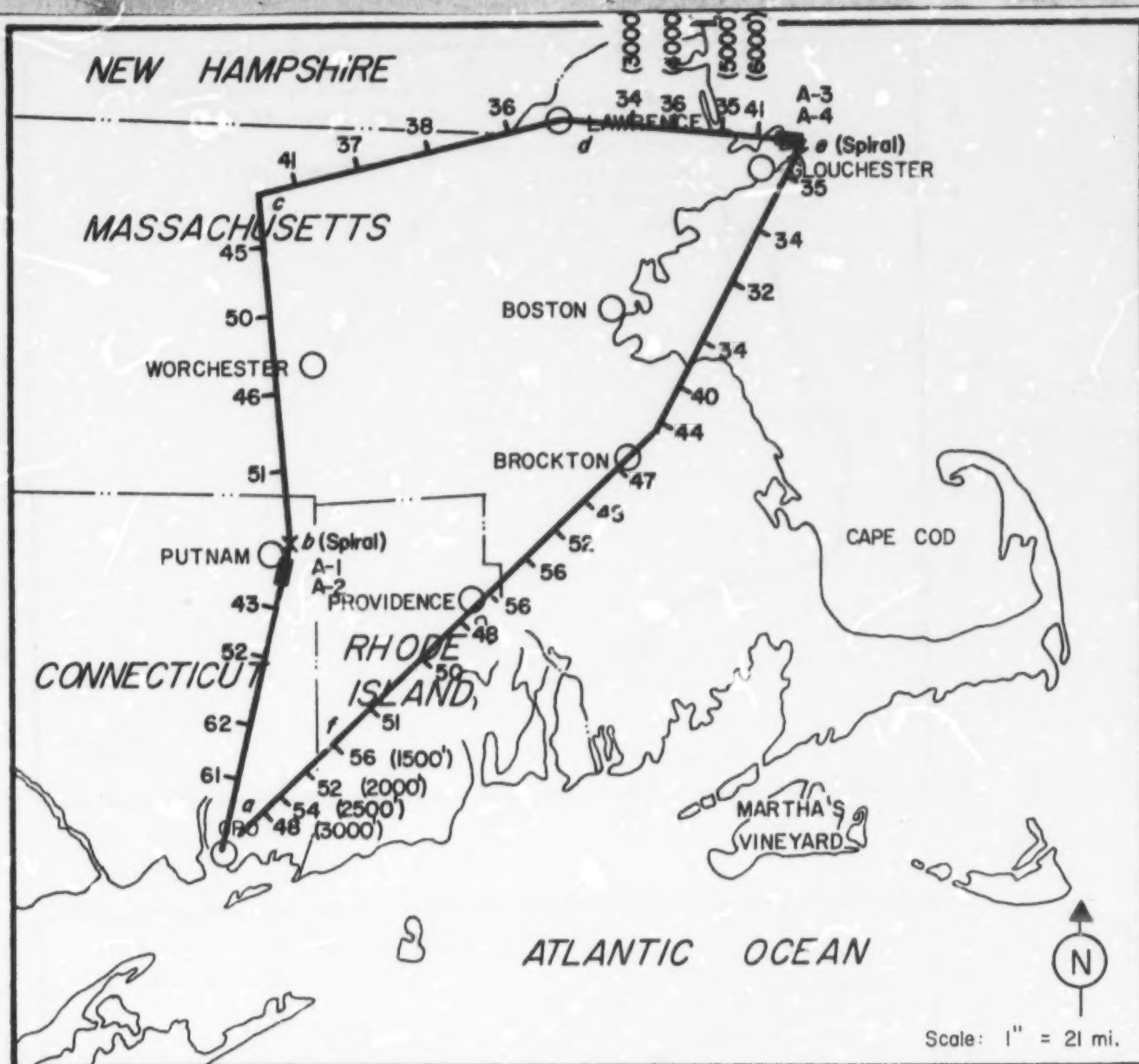


Figure 49. Flight #12 on July 23, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 8:05 AM to 11:45 AM

Leg ab: 8:05 - 8:27 at ~ 1500' MSL
 b: 8:28 - 8:58 spiral ascent to 8000' and descent to 1500'
 bc: 8:59 - 9:29 at ~ 2000'
 cd: 9:30 - 10:07 at ~ 2000'
 de: 10:08 - 10:20 angle ascent to 6000'
 e: 10:21 - 10:37 spiral descent to 500'
 ef: 10:38 - 11:29 at ~ 1500'
 fa: 11:30 - 11:45 angle ascent to 3000' and descent to landing

WIND: 250° at 6 mph (Groton)

WEATHER: Sunny and warm

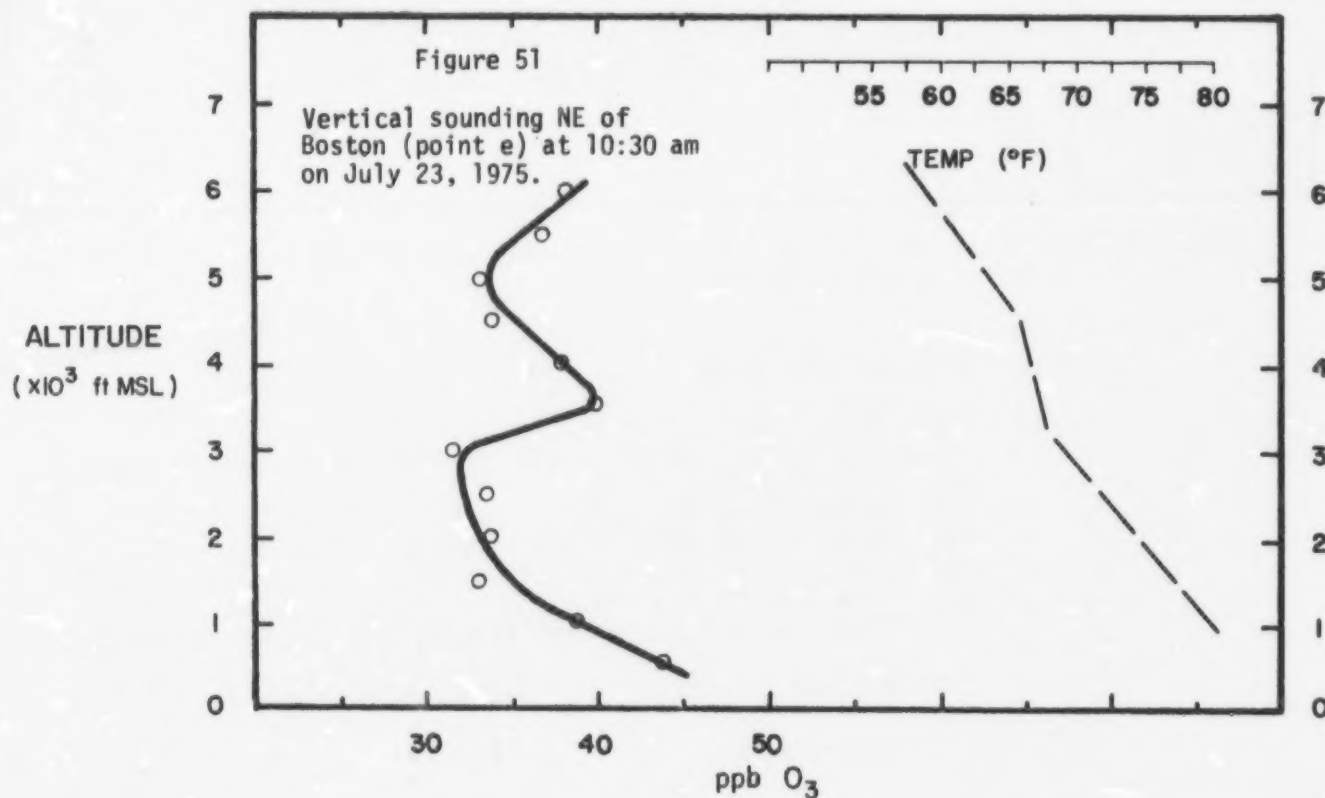
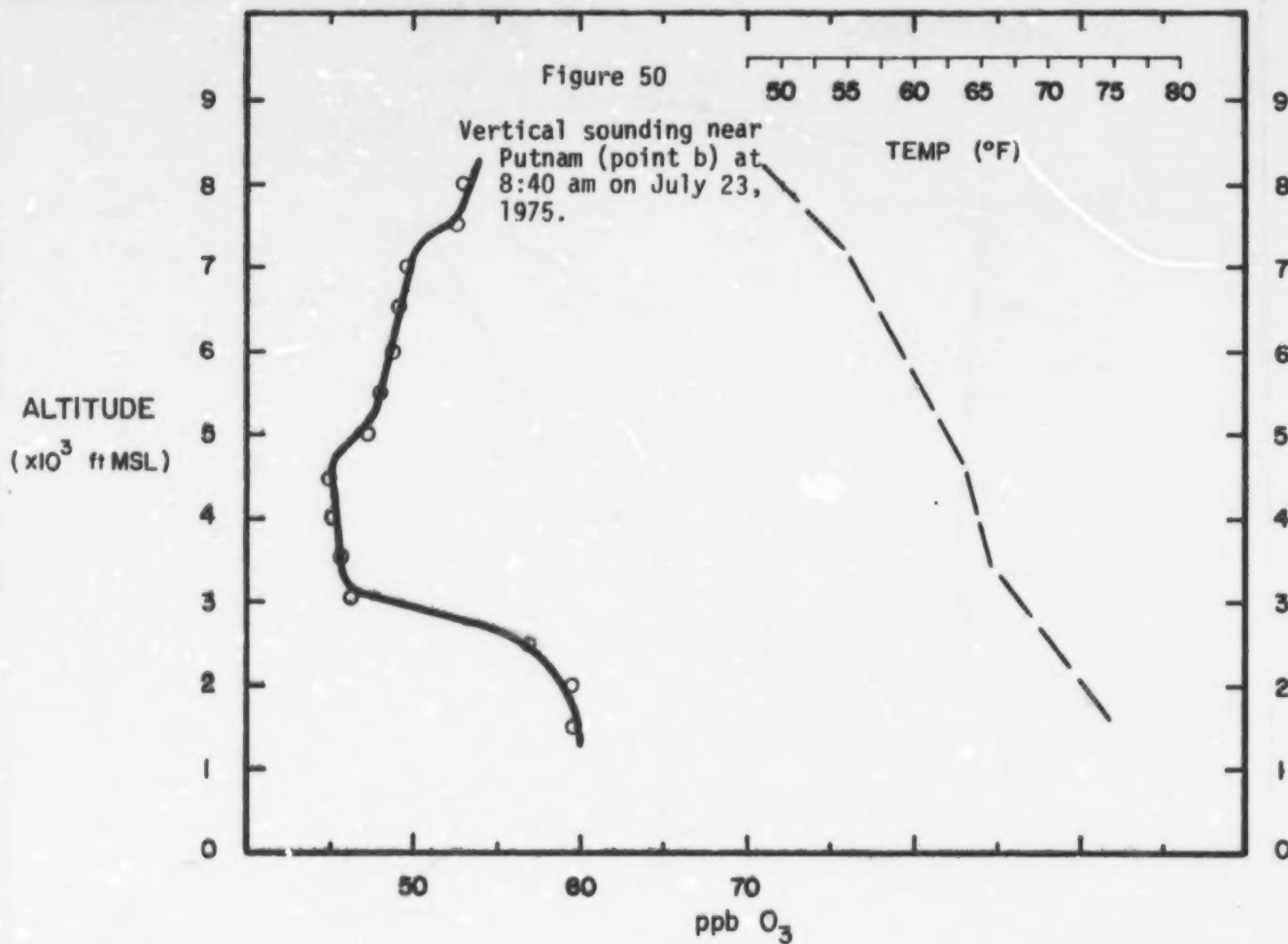


Figure 52. Plot of aircraft data recorded during flight #12 on July 23, 1975.

Flight continued next page

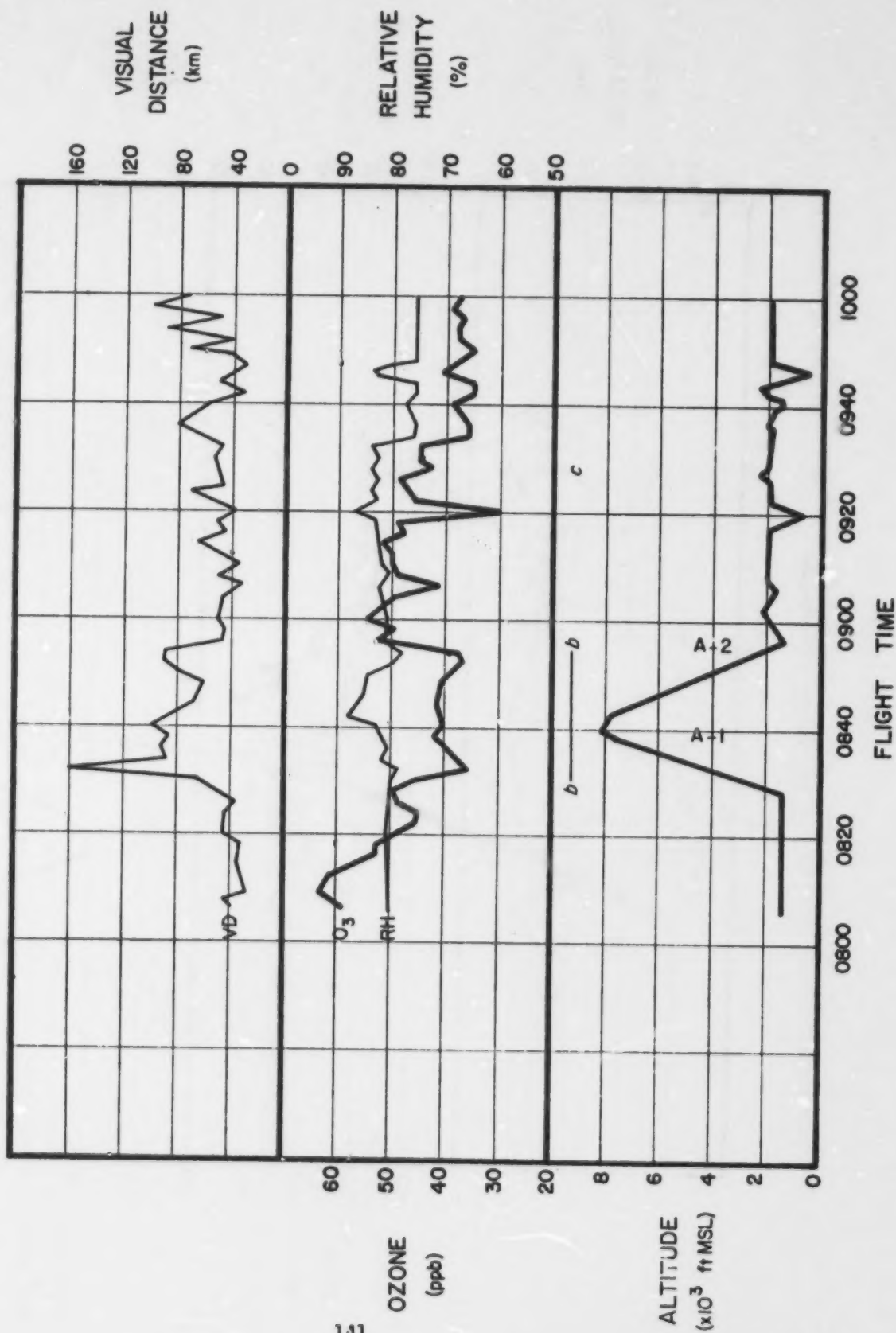
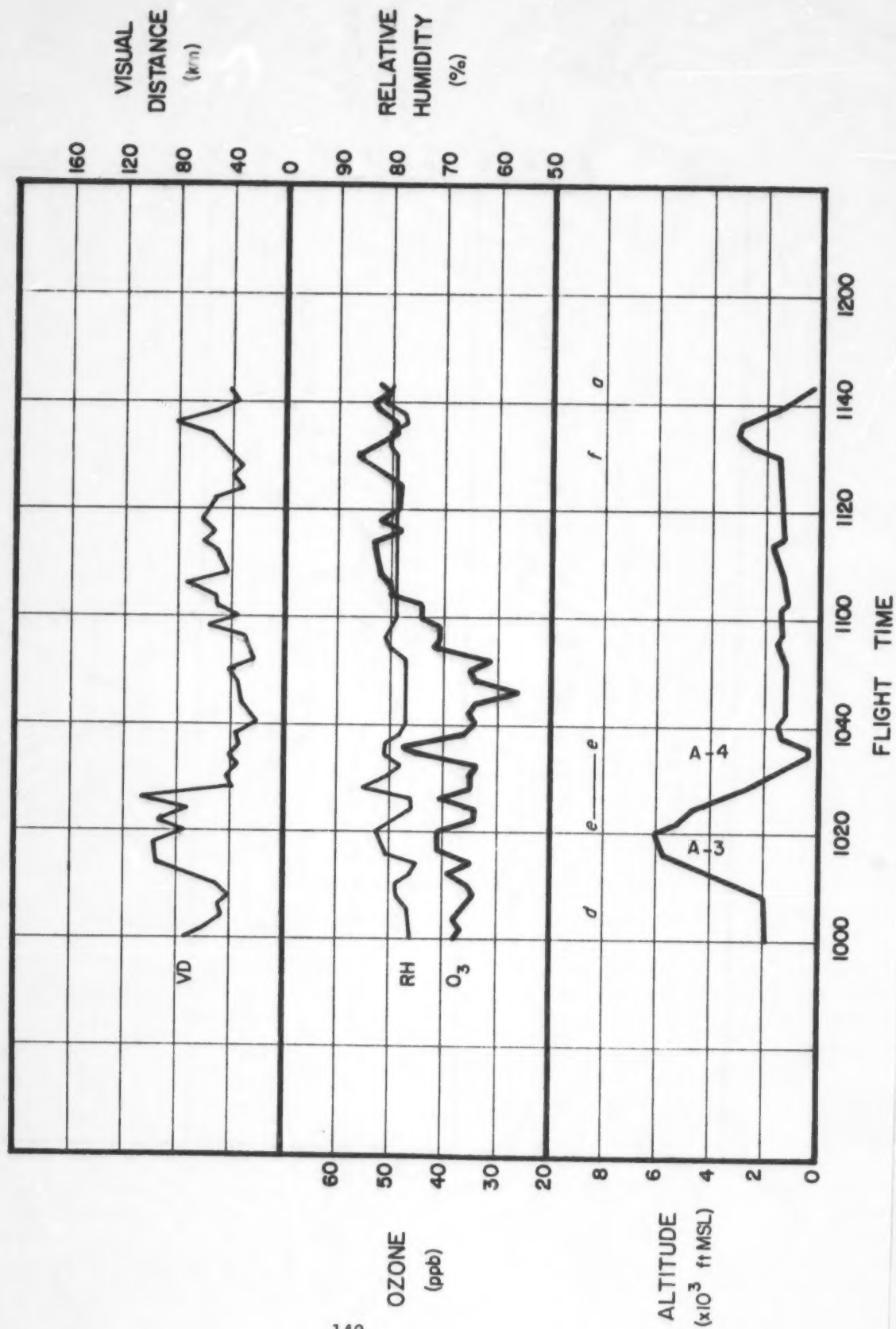


Figure 52. Continued



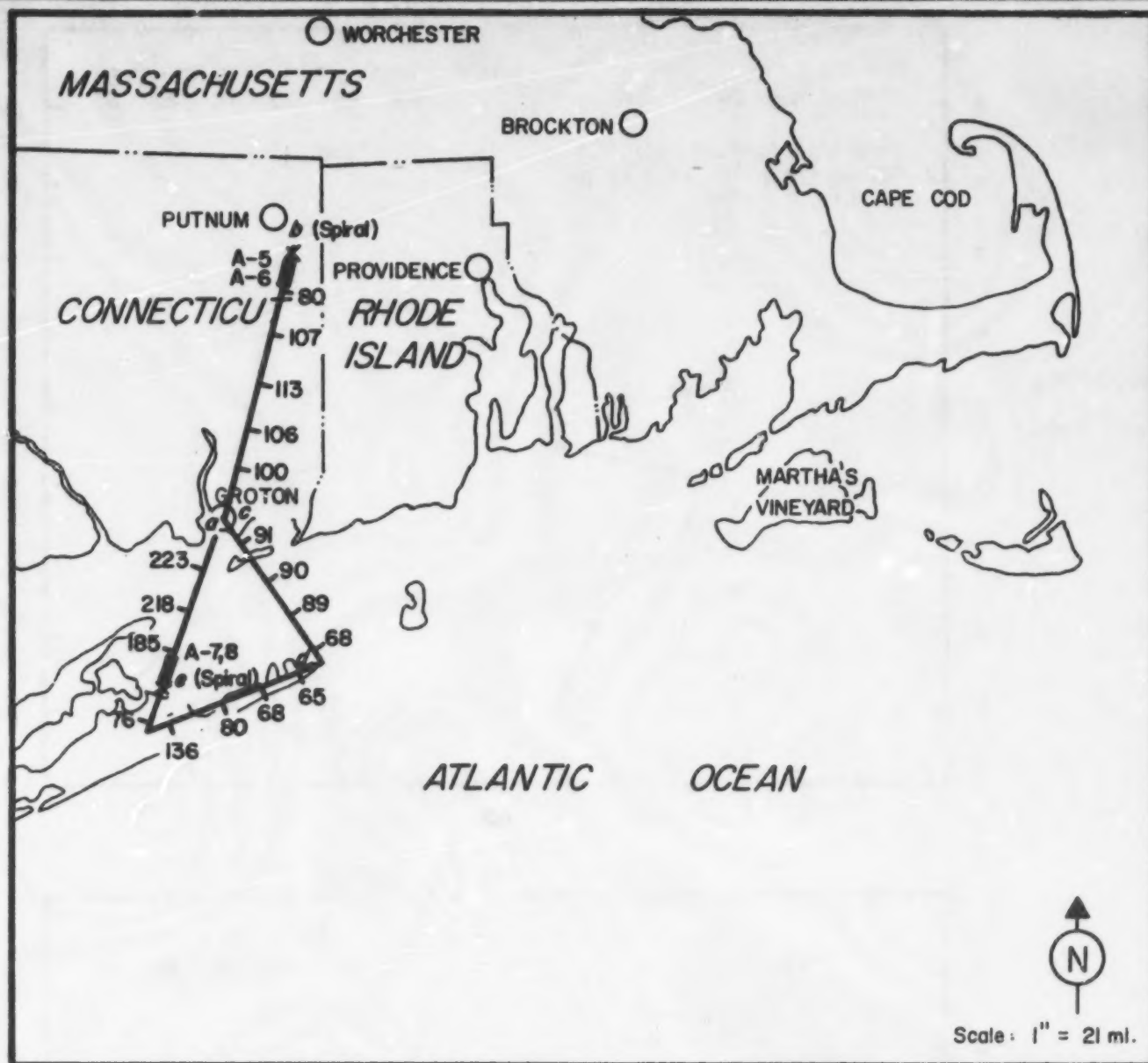


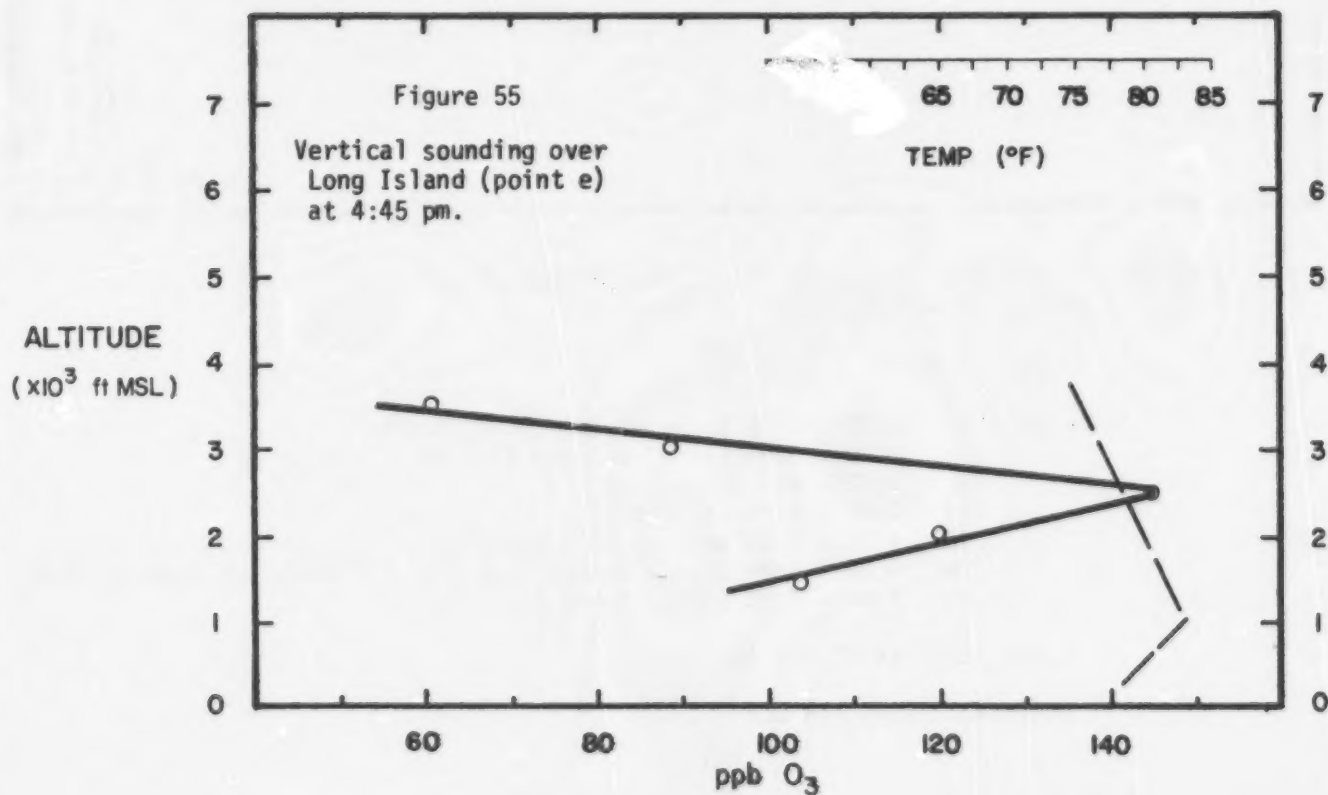
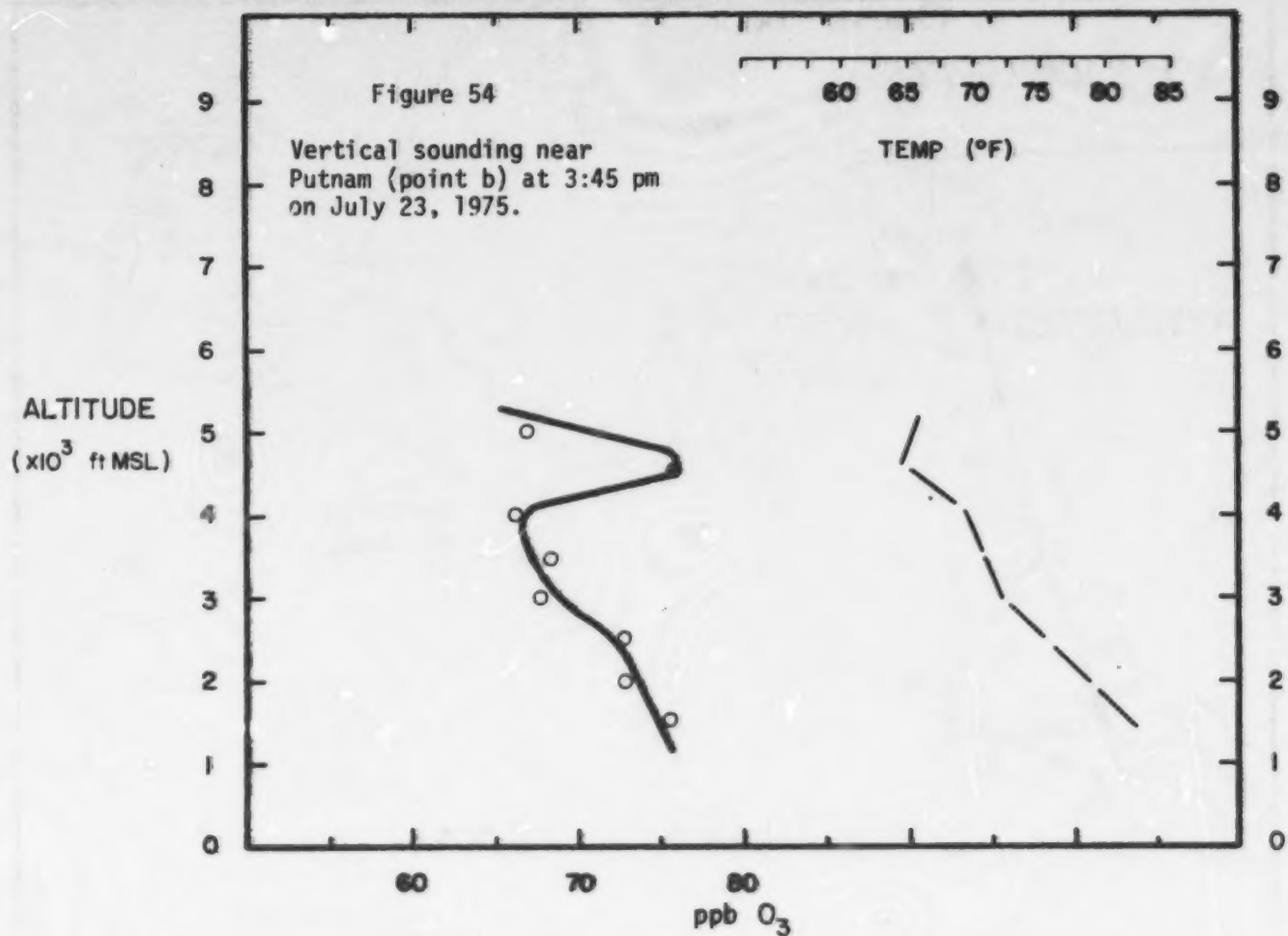
Figure 53. Flight #13 on July 23, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 3:20 PM to 5:10 PM

Leg ab: 3:20 - 3:39 angle ascent to 5000' MSL
 b: 3:40 - 3:51 spiral descent to 500'
 bc: 3:52 - 4:07 at ~ 1500'
 cd: 4:08 - 4:20 at ~ 1500'
 de: 4:21 - 4:31 between 500' and 2000'
 e: 4:32 - 4:49 spiral ascent from 500' to 3500' and down to 2500'
 ea: 4:50 - 5:10 across sound at 2500'

WIND: 220° at 12 mph (Groton)

WEATHER: Sunny and hot



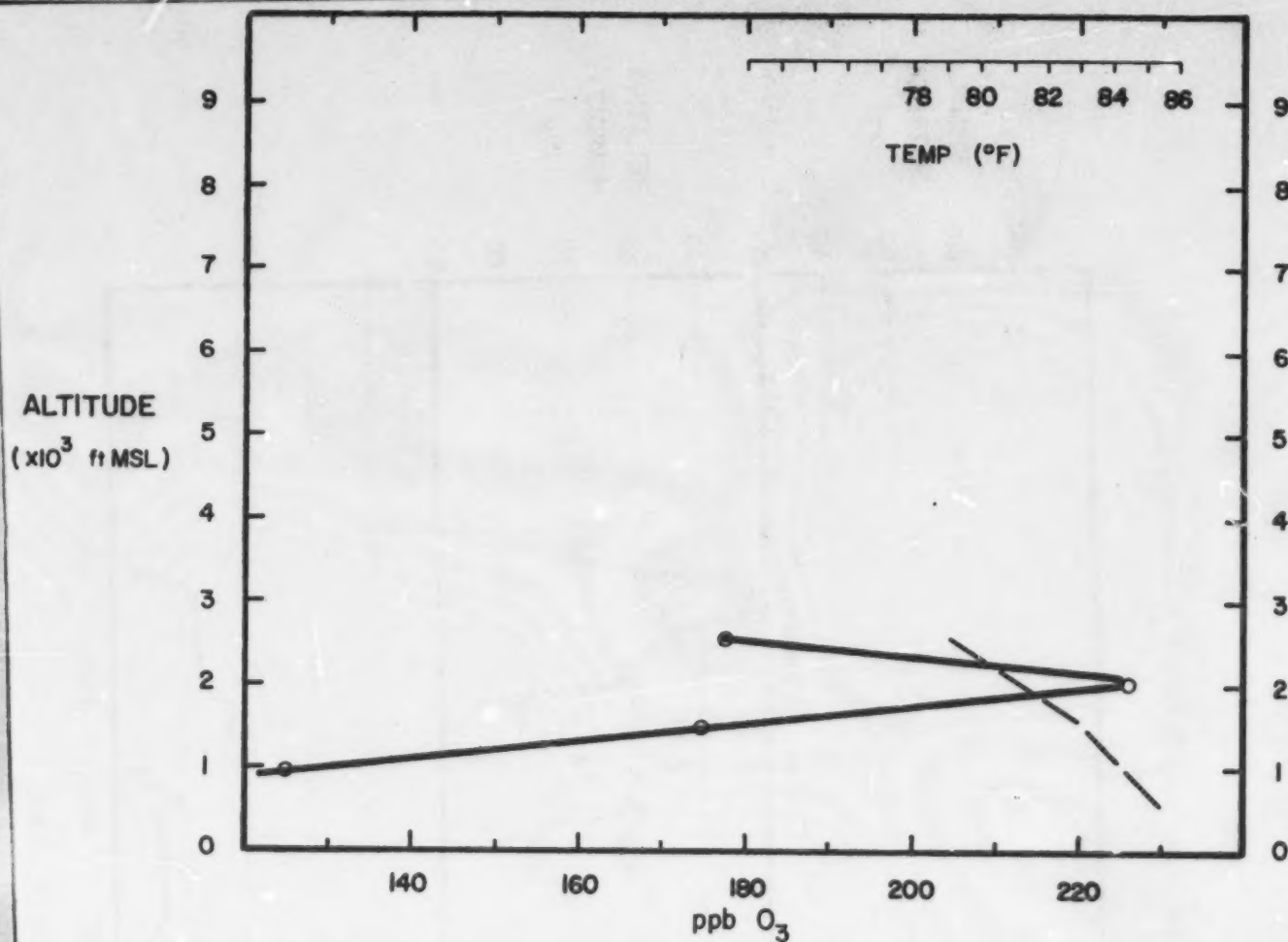
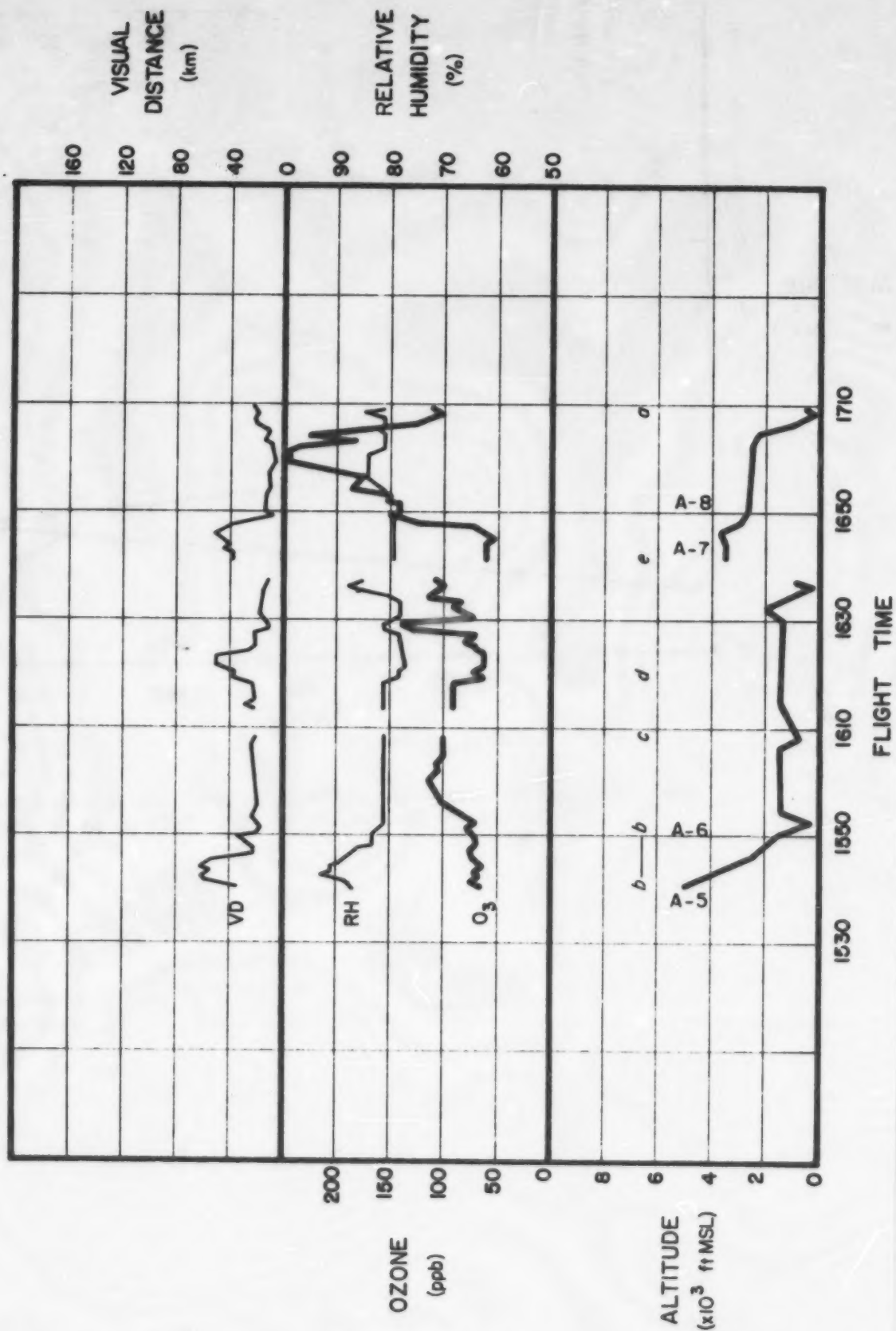
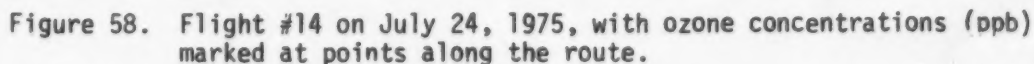


Figure 56. Vertical ozone and temperature profiles on descent to landing at Groton (point a) at 5:10 pm on July 23, 1975.

Figure 57. Plot of aircraft data recorded during flight #13 on July 23, 1975.

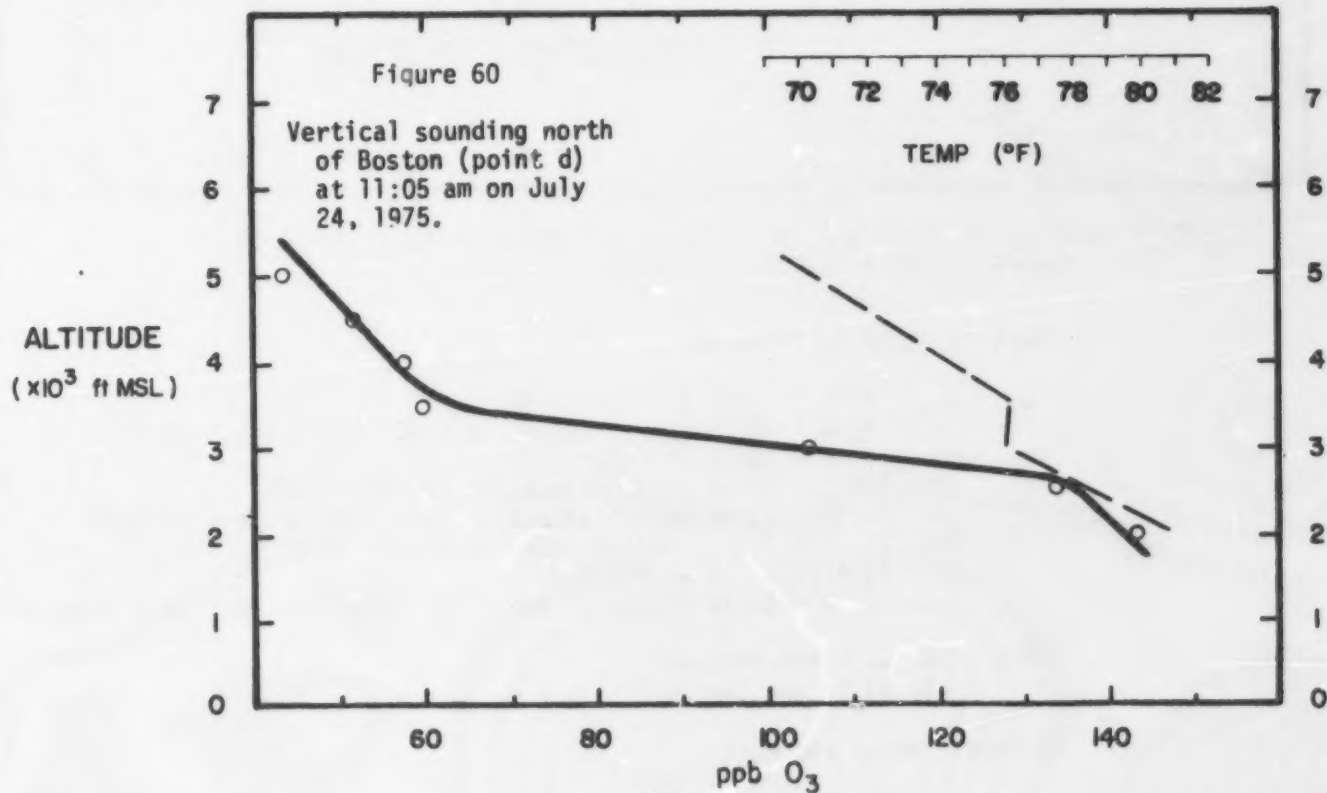
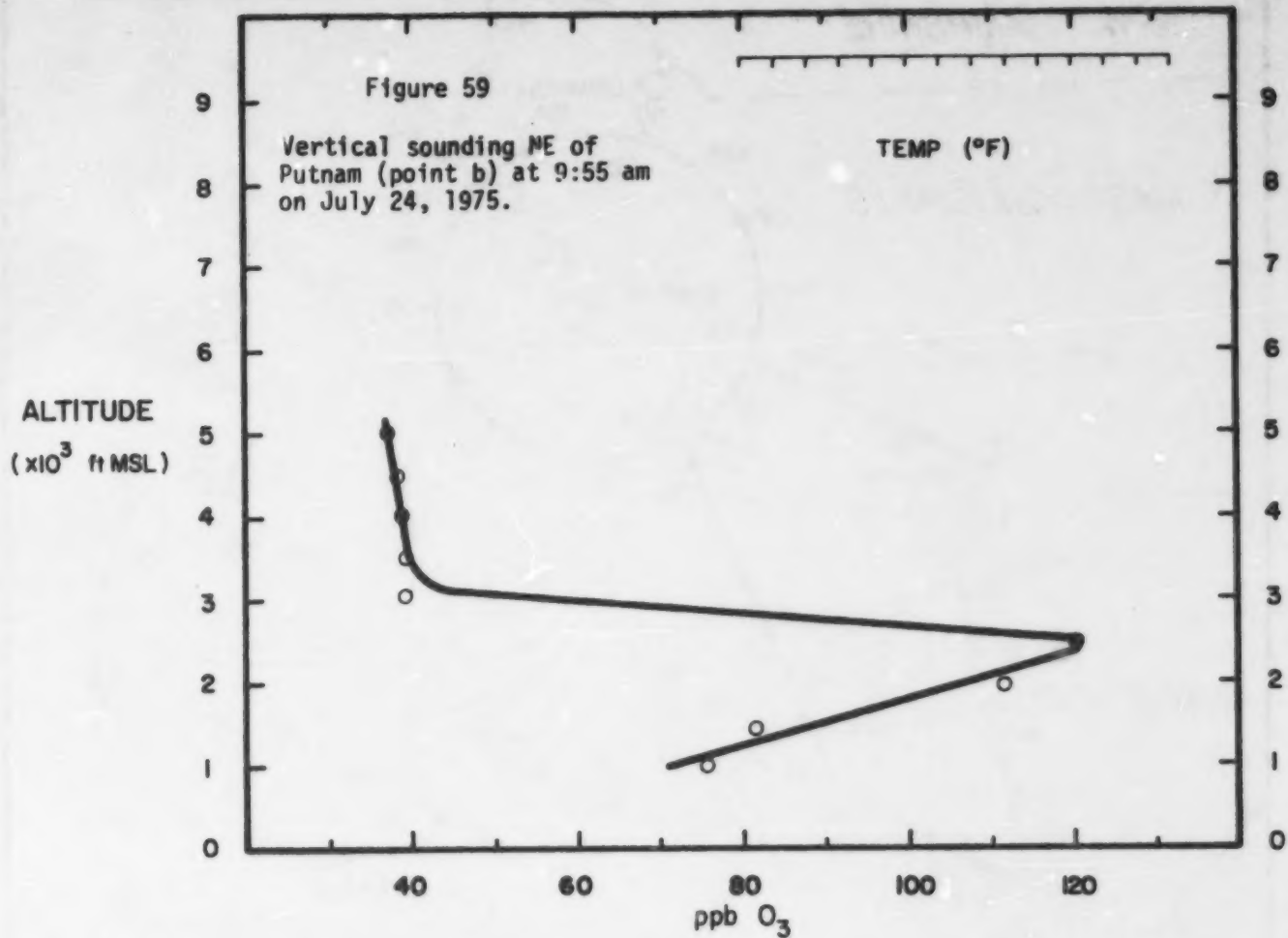




Leg

ab:	9:15 - 9:45	at ~ 1500' MSL
b:	9:46 - 10:05	spiral ascent to 5000' and descent to 2000'
bc:	10:06 - 10:12	at 2000'
cd:	10:13 - 10:56	counterclockwise arc at ~ 2000'
d:	10:57 - 11:12	spiral ascent to 5000' and descent to 2000'
de:	11:13 - 11:46	counterclockwise arc at 2000'
ef:	11:47 - 12:13	at 1500'
fa:	12:14 - 12:30	ascent to 4000' and spiral descent to landing

WEATHER: Sunny and warm



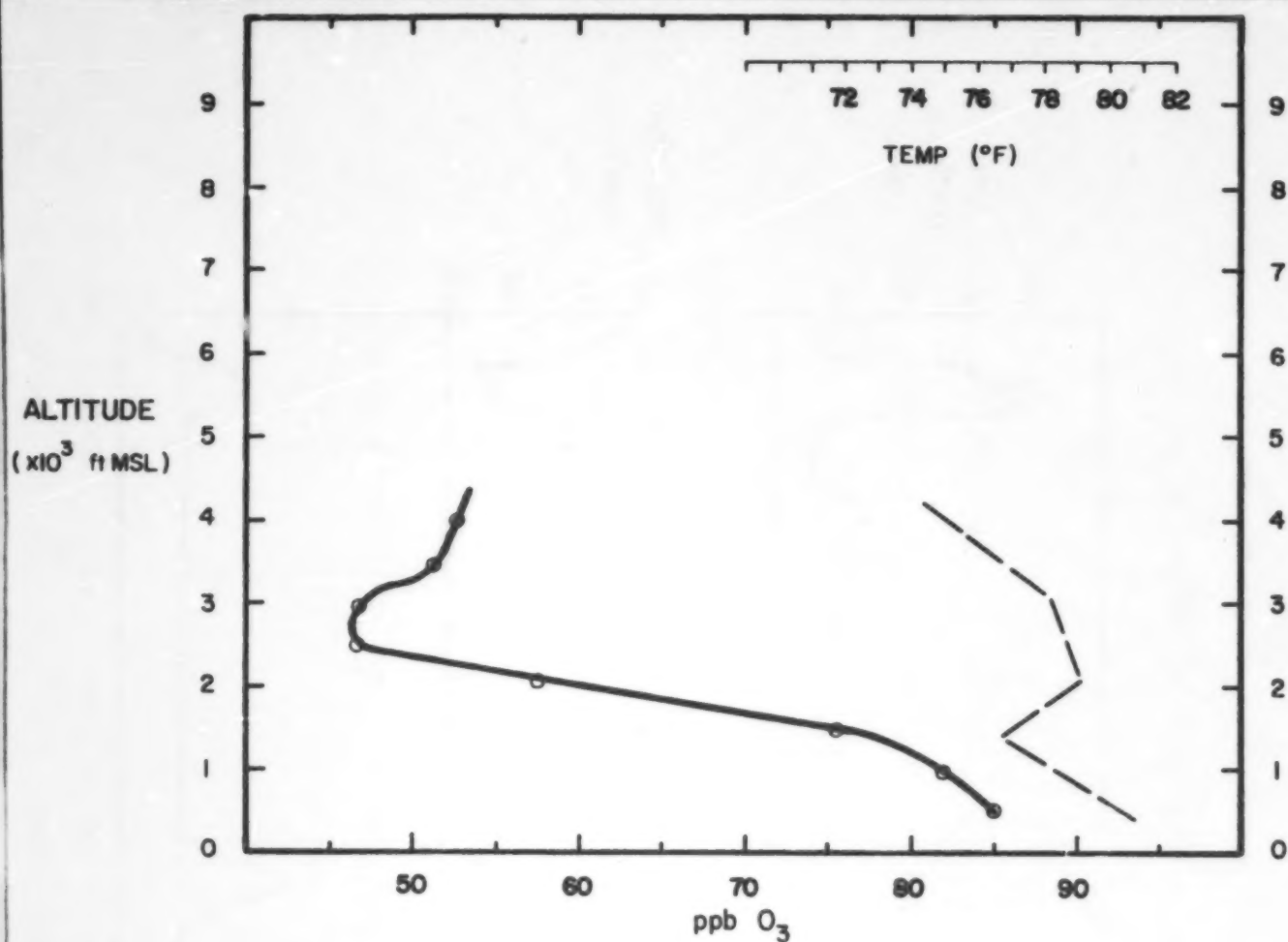
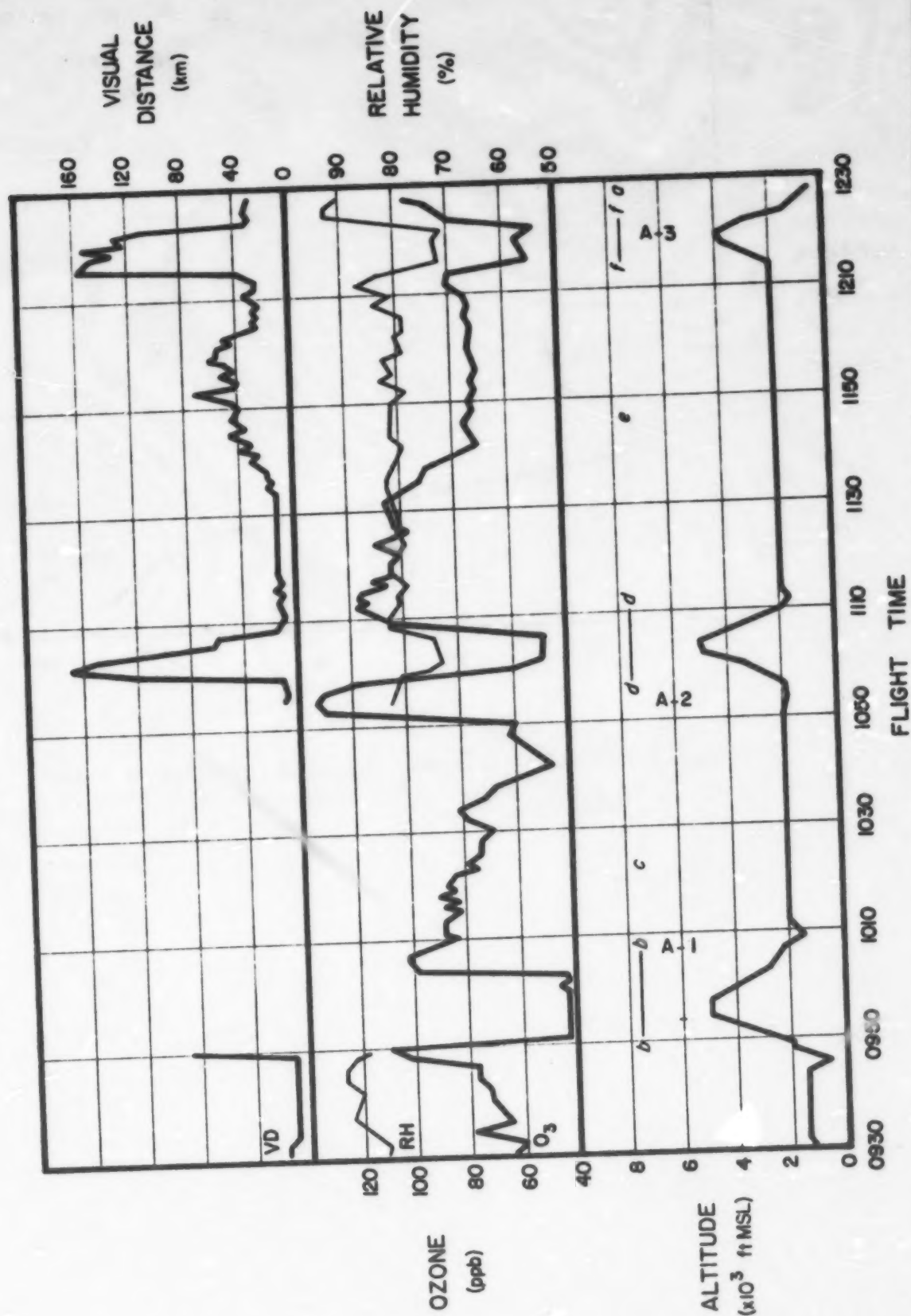


Figure 61. Vertical ozone and temperature profiles on descent to landing at Groton (point a) at 12:30 pm on July 24, 1975.

Figure 62. Plot of aircraft data recorded during flight #14 on July 24, 1975.



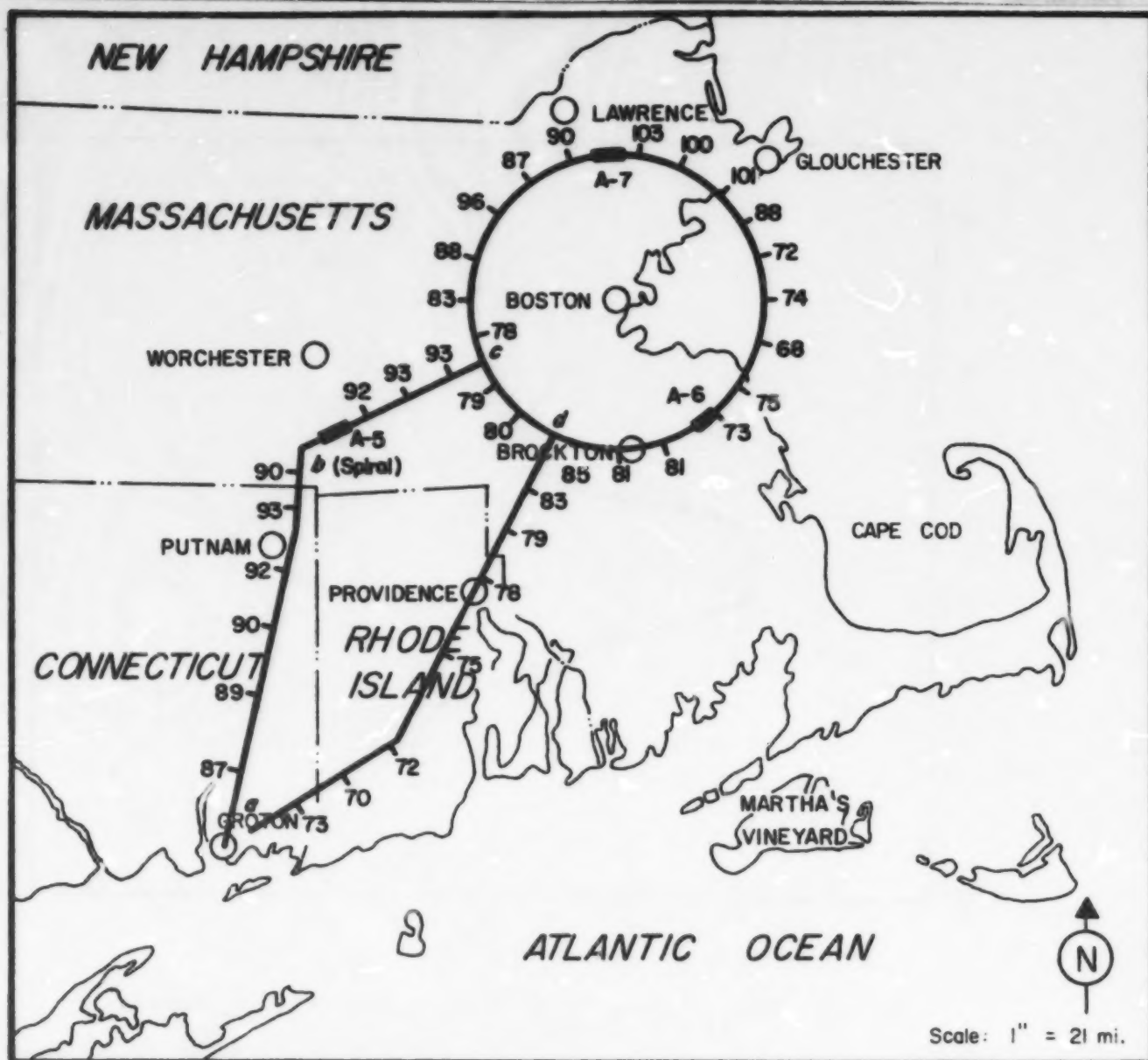


Figure 63. Flight #15 on July 24, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 2:20 PM to 5:20 PM

Leg ab: 2:20 - 2:41 at 1500' MSL
 b: 2:42 - 3:07 spiral ascent to 7000' and descent to 1500'
 bc: 3:08 - 3:17 at 1500'
 cd: 3:18 - 4:41 counterclockwise arc at ~ 1500'
 da: 4:42 - 5:20 at 1500'

WIND: 210° at 10 mph (Groton)
 220° at 18 mph (Boston)

WEATHER: Partly cloudy and hot

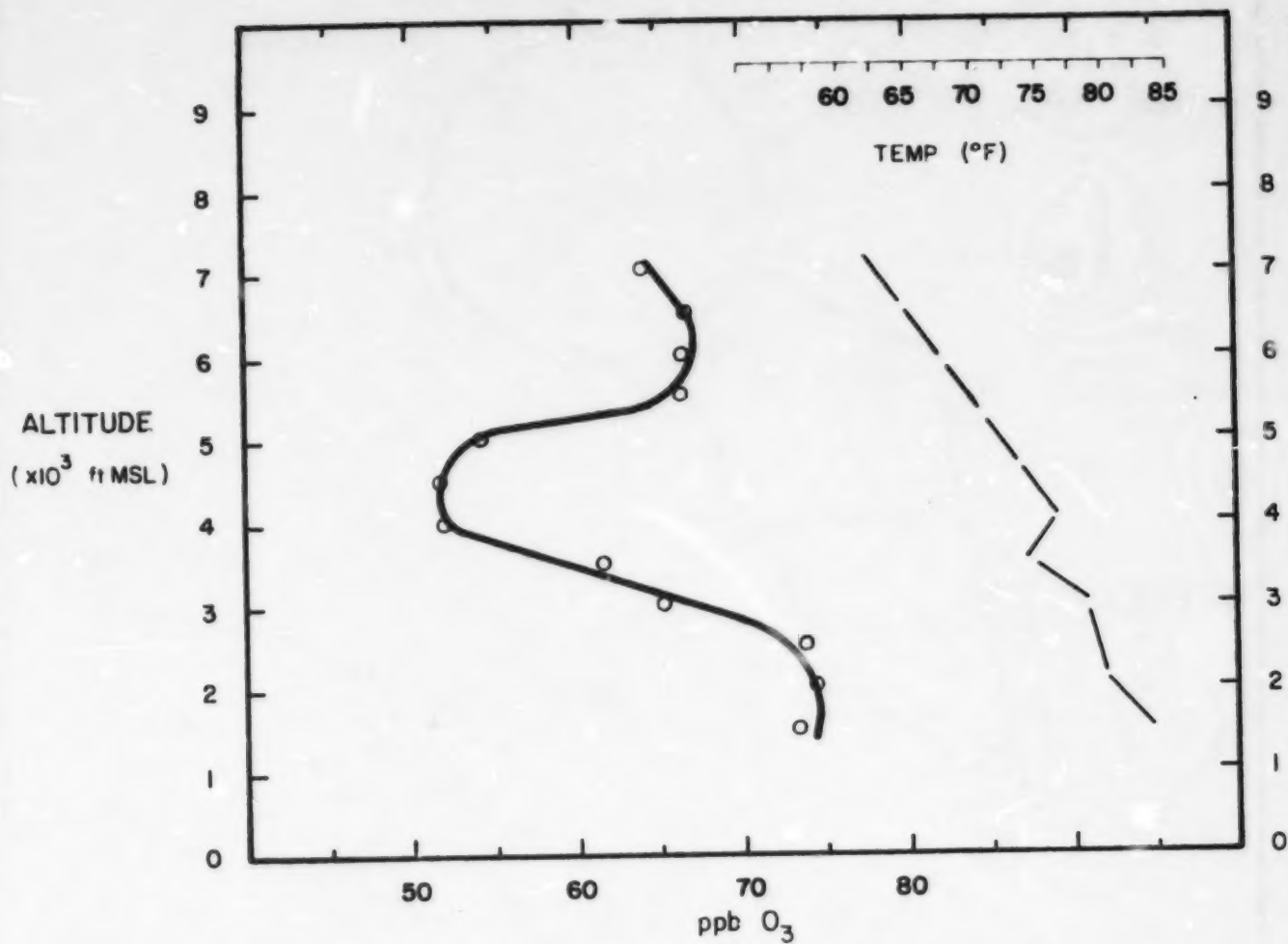
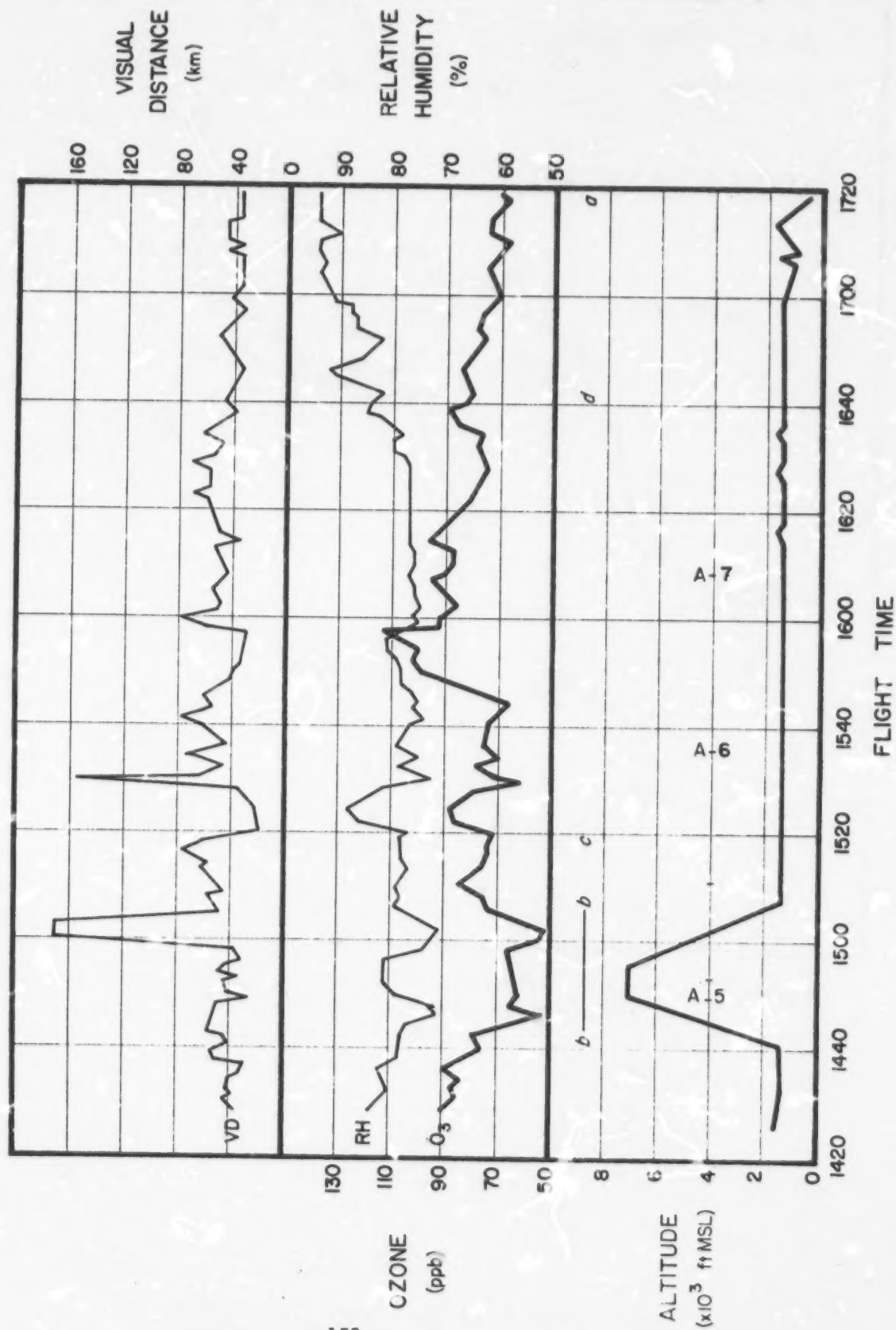


Figure 64. Vertical ozone and temperature profiles NE of Putnam (point b) at 3:00 pm on July 24, 1975.

Figure 65. Plot of aircraft data recorded during flight #15 on July 24, 1975.



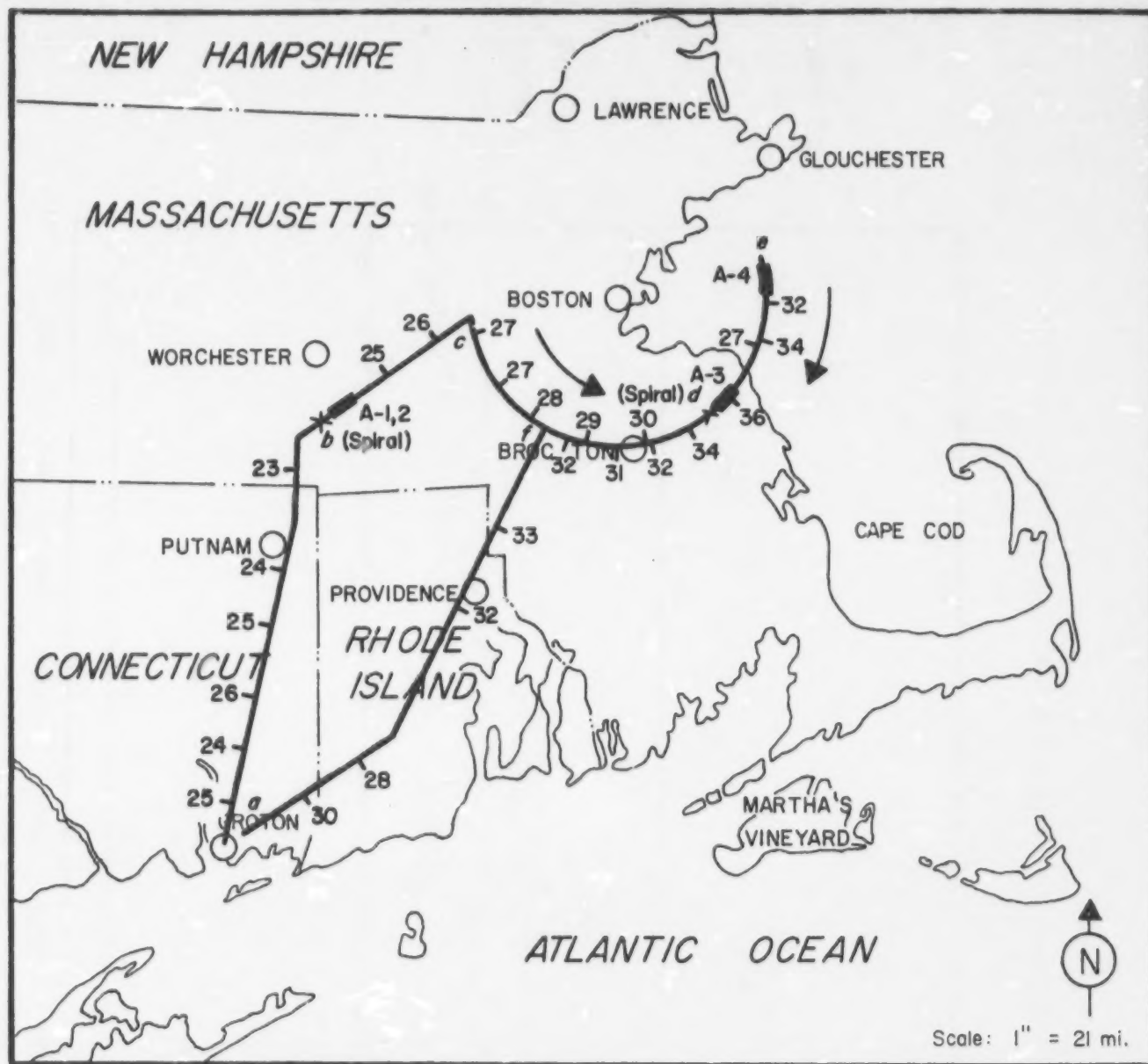


Figure 66. Flight #16 on July 26, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 9:40 AM to 12:50 PM

Leg ab: 9:40 - 10:10 at 1500' MSL
 b: 10:11 - 10:30 spiral ascent to 5000' and descent to 1500'
 bc: 10:31 - 10:40 at 1500'
 cd: 10:41 - 11:00 counterclockwise arc at 1500'
 d: 11:01 - 11:29 spiral ascent to 5500' and descent to 1500'
 de: 11:30 - 11:50 at 1500'
 ef: 11:51 - 12:13 at 1500'
 fa: 12:14 - 12:50 at 1500'

WIND: 340° at 12 mph (Groton)
 320° at 12 mph (Boston)

WEATHER: Sunny and warm

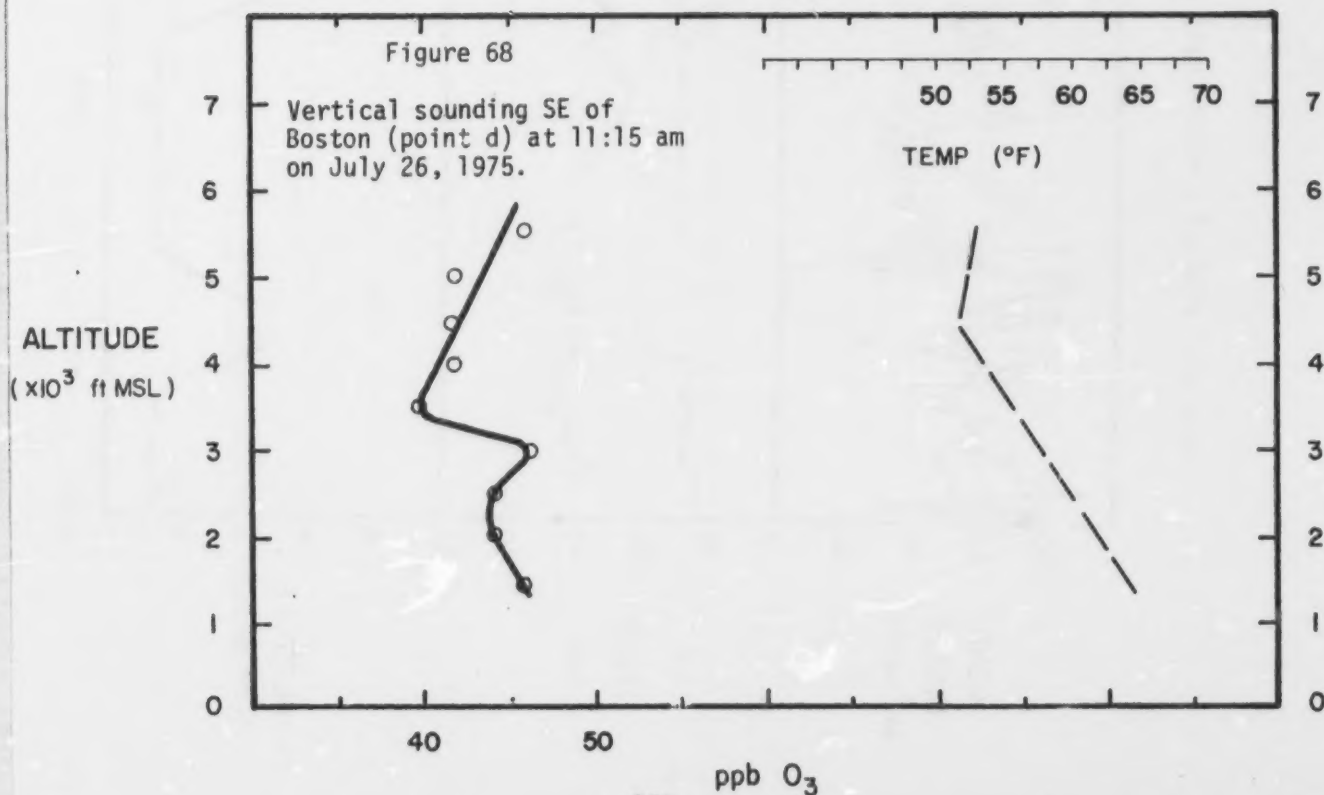
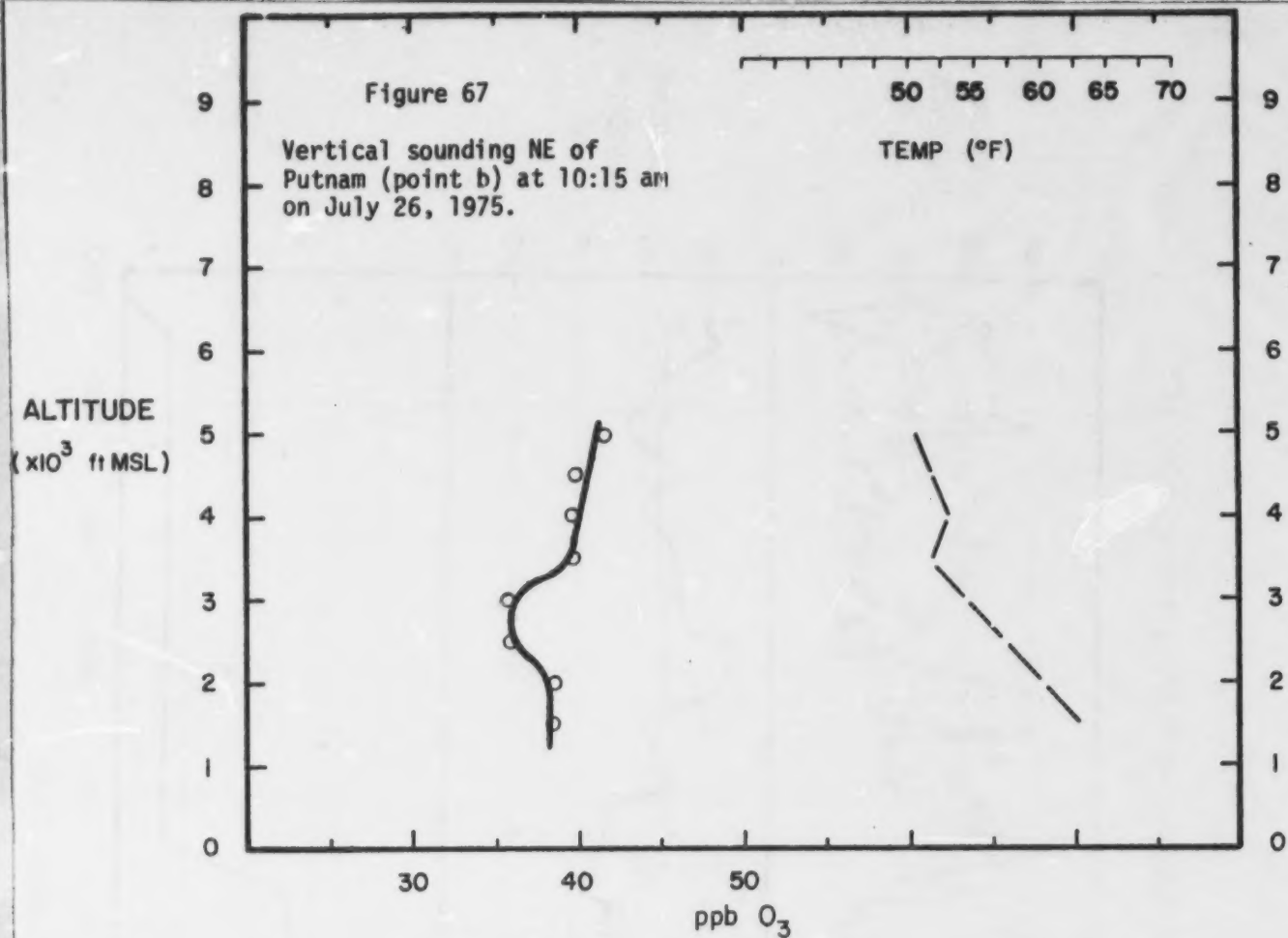
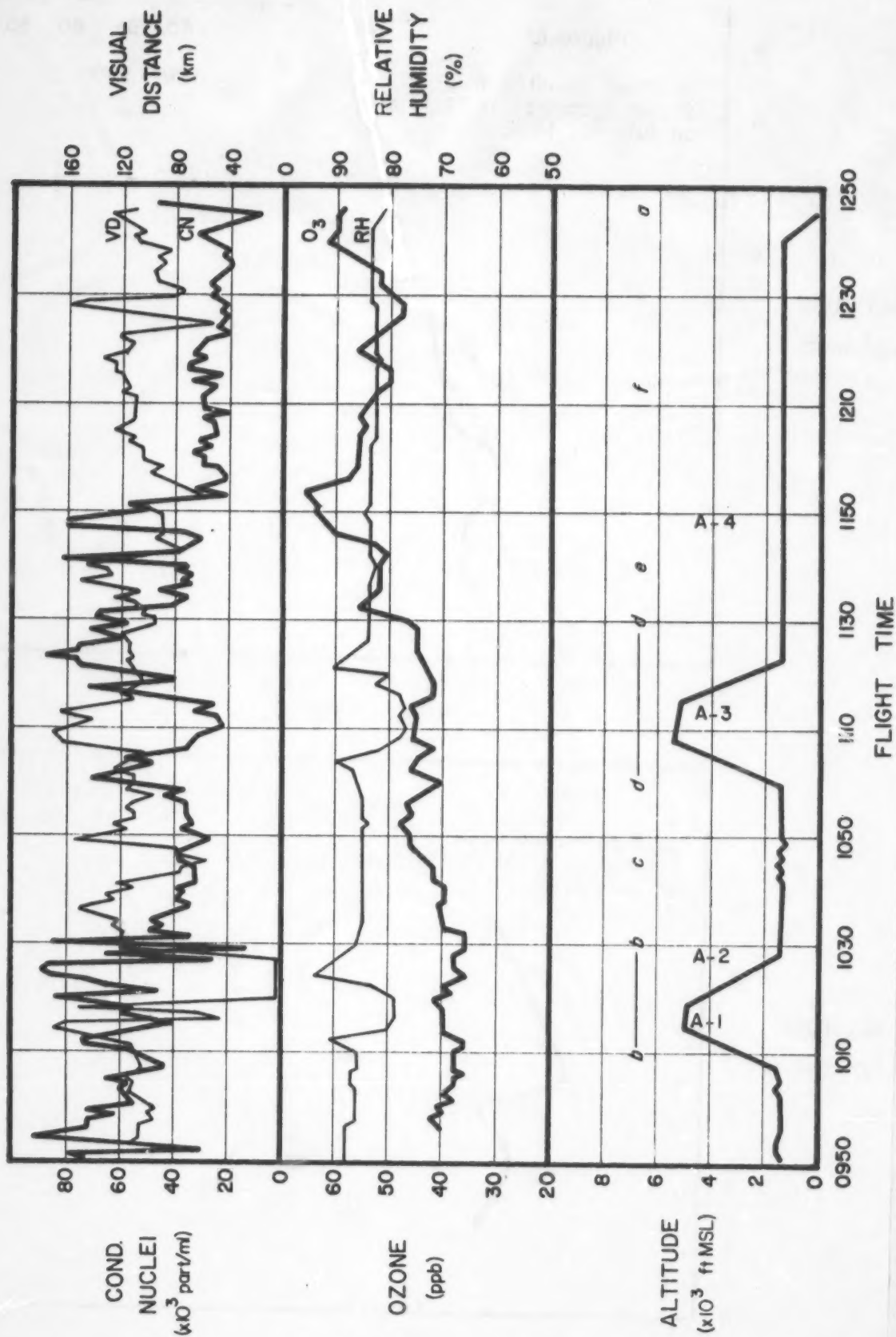


Figure 69. Plot of aircraft data recorded during flight #16 on July 26, 1975.



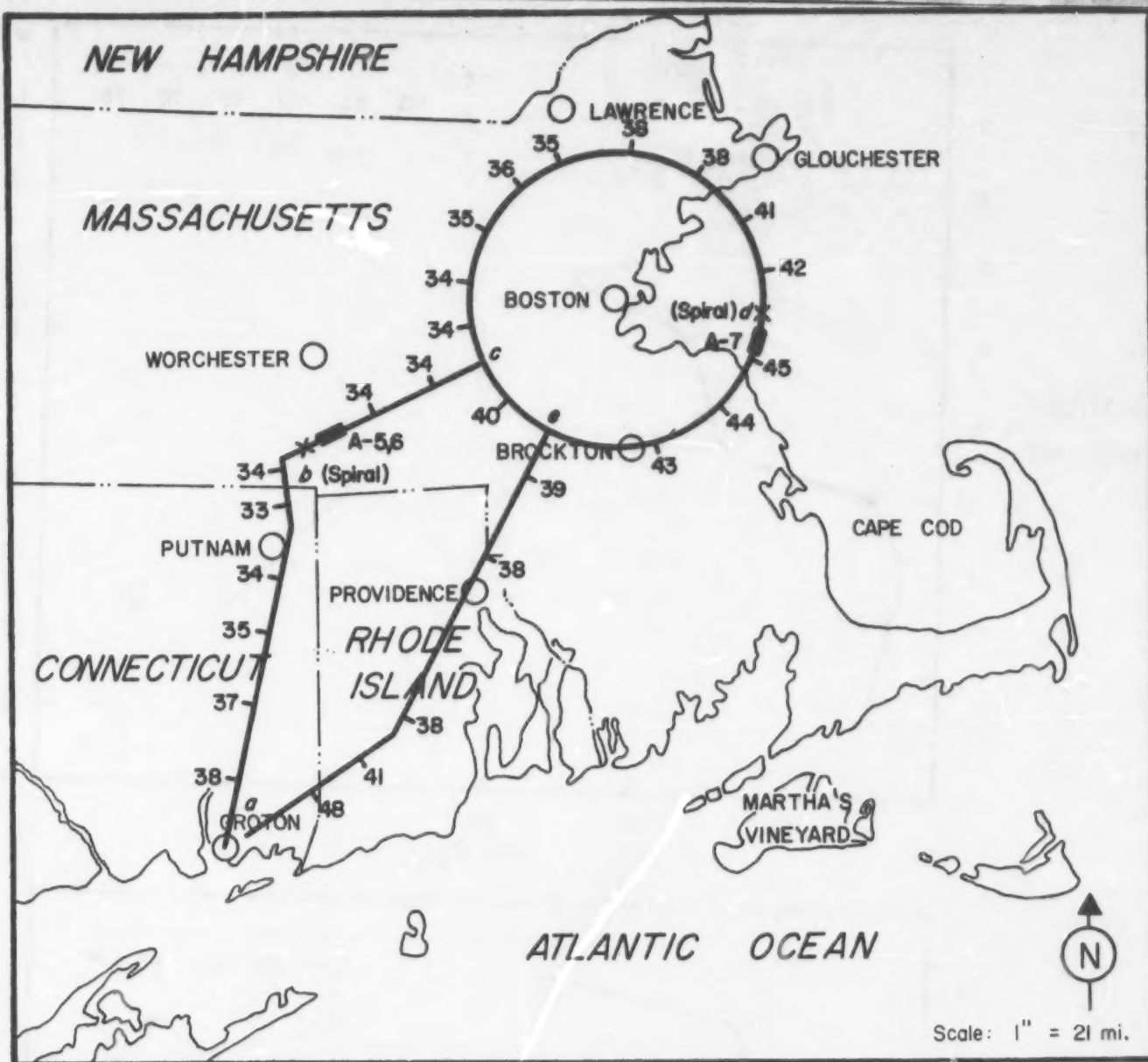


Figure 70. Flight #17 on July 26, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 3:00 PM to 6:05 PM

Leg ab: 3:00 - 3:25 at 1500' MSL
 b: 3:26 - 3:52 spiral ascent to 7000' and descent to 1500'
 bc: 3:53 - 4:04 at 1500'
 cd: 4:05 - 4:31 counterclockwise arc at 1500'
 d: 4:32 - 4:55 spiral ascent to 7000' and descent to 1500'
 de: 4:56 - 5:36 counterclockwise arc at 1500'
 ea: 5:37 - 6:05 at 1500'

WIND: 350° at 10 mph (Groton)
 340° at 10 mph (Boston)

WEATHER: Sunny and warm

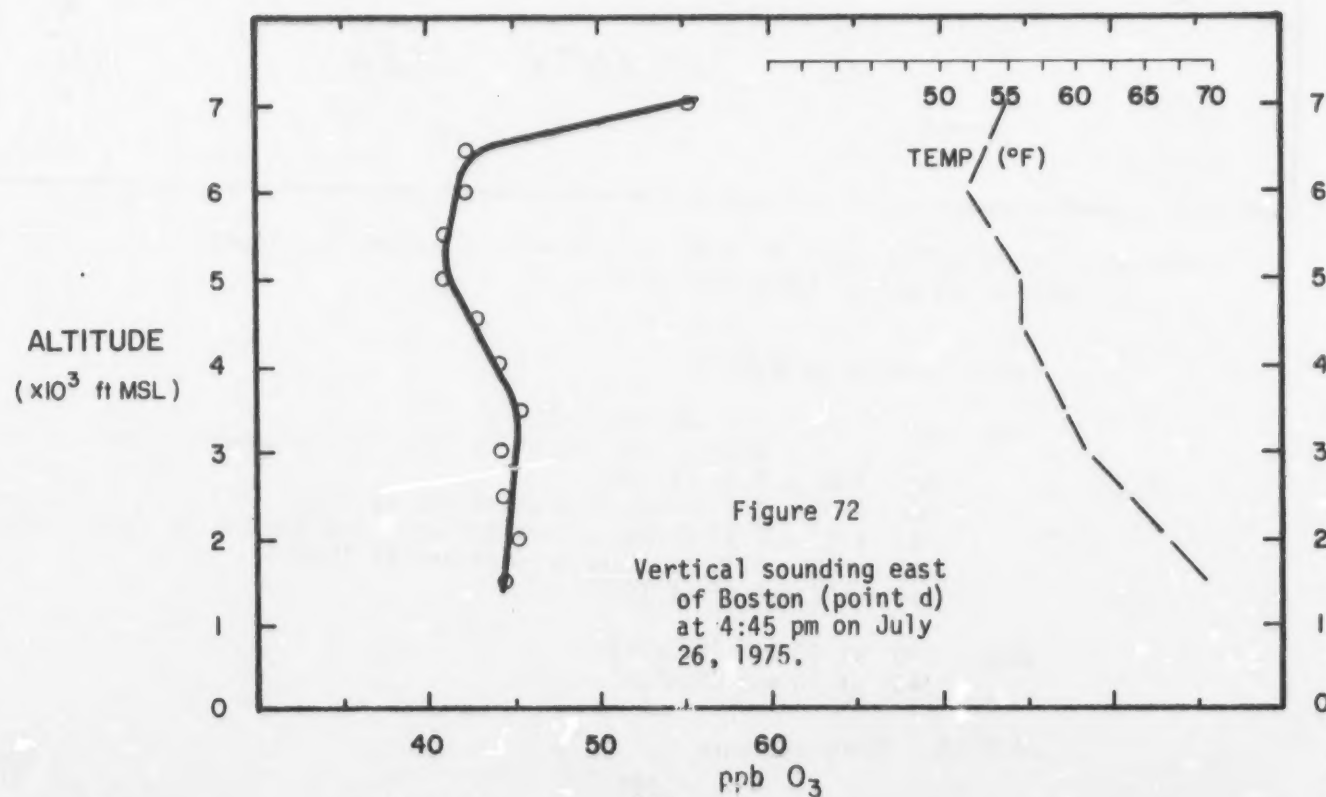
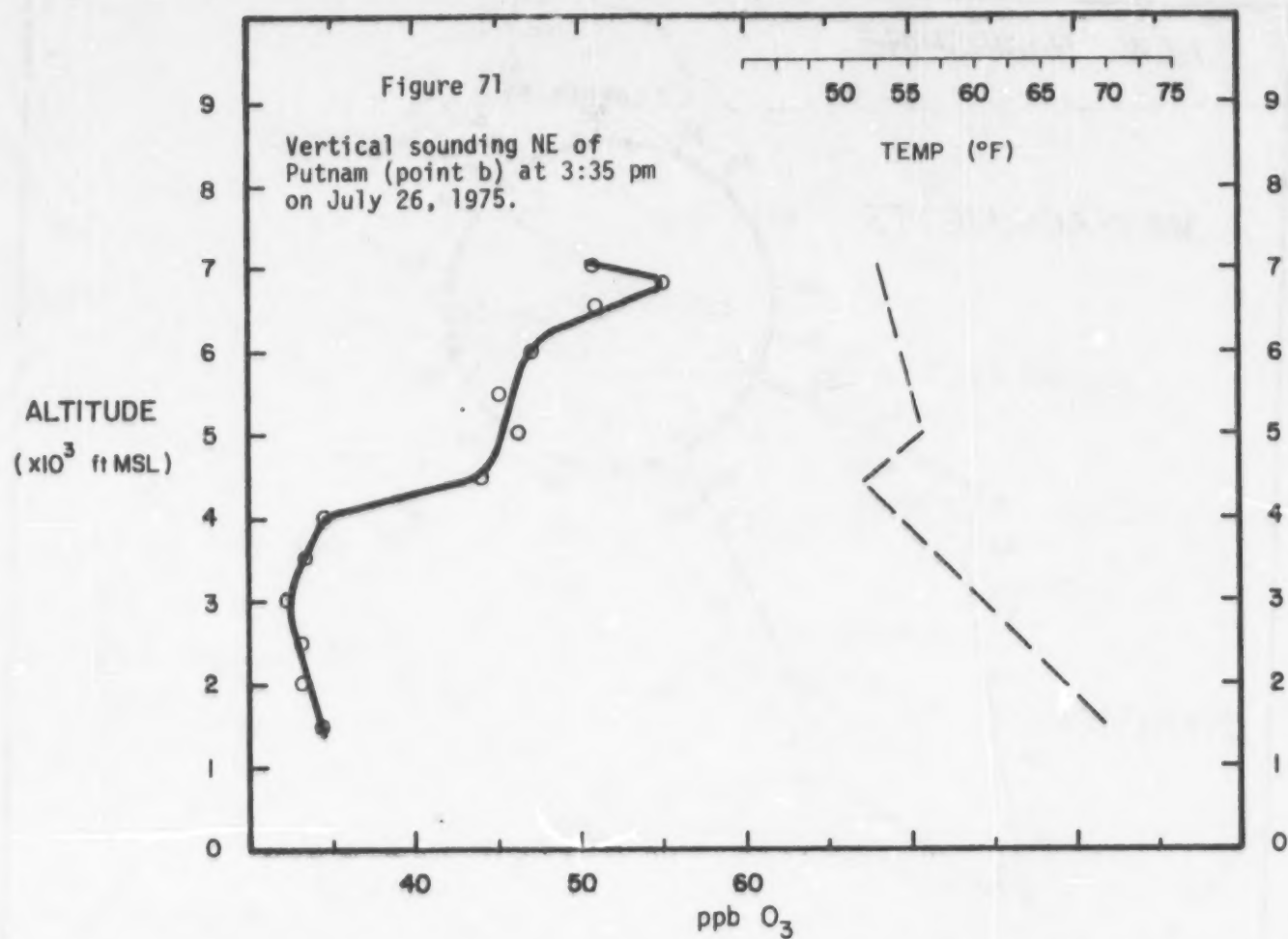
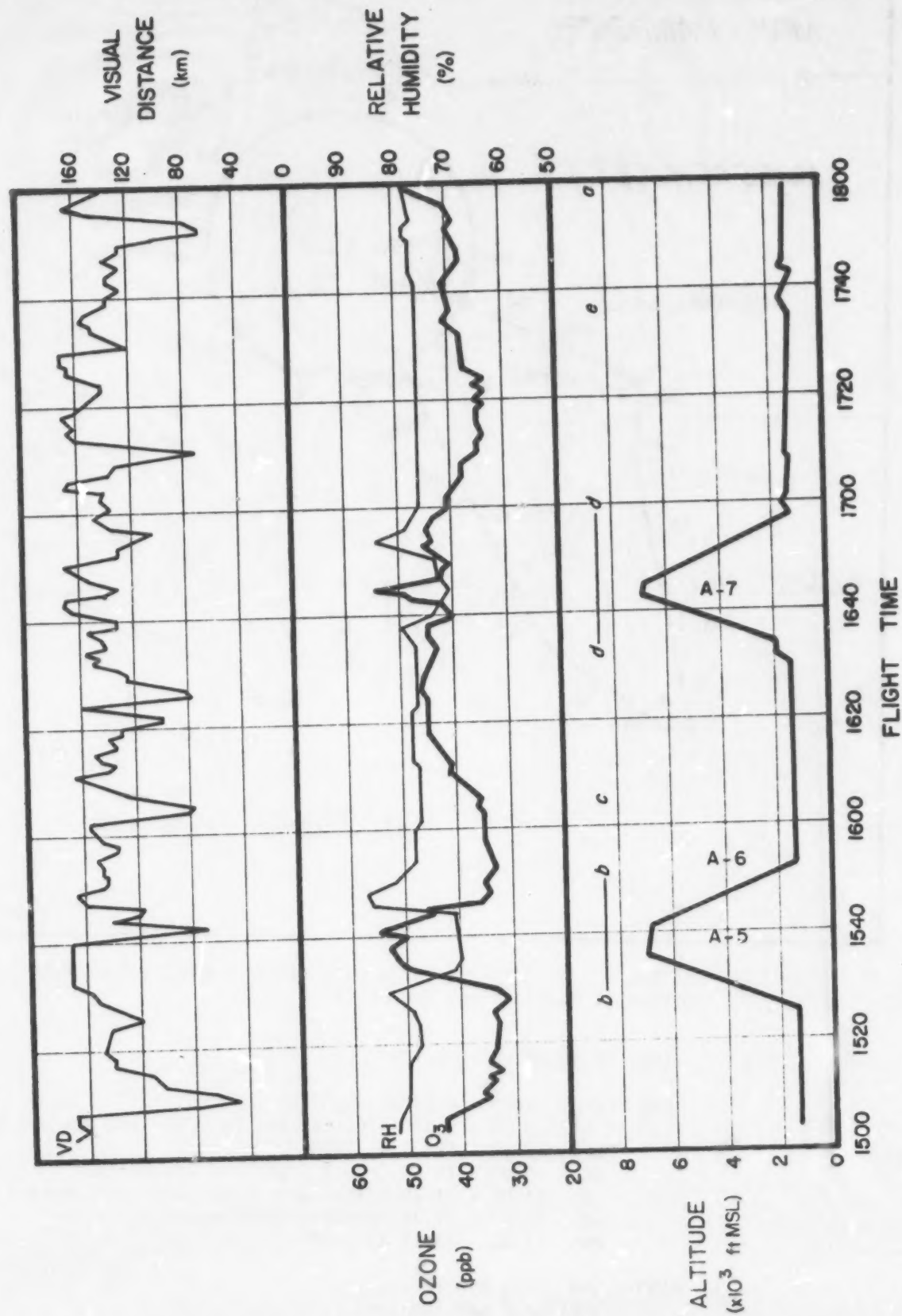


Figure 73. Plot of aircraft data recorded during flight #17 on July 26, 1975.



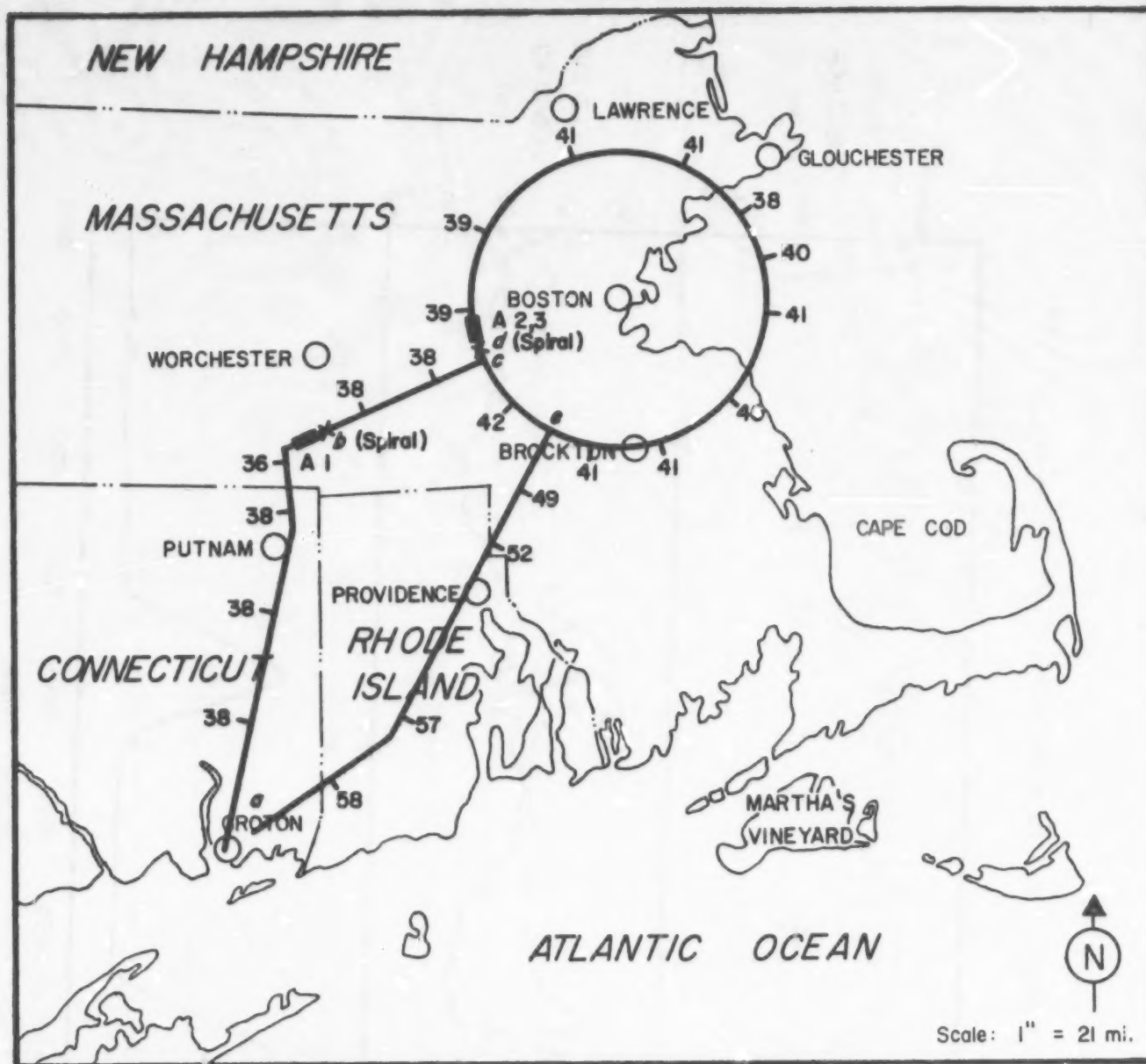


Figure 74. Flight #18 on July 27, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 9:10 AM to 12:15 PM

Leg ab: 9:10 - 9:34 at 1500' MSL
 b: 9:35 - 9:54 spiral ascent to 5000' and descent to 1000'
 bc: 9:55 - 10:03 at 1500'
 cd: 10:04 - 11:00 counterclockwise arc at 1500'
 d: 11:01 - 11:29 spiral ascent to 6000' and descent to 1500'
 de: 11:30 - 11:35 counterclockwise arc at 1500'
 ea: 11:36 - 12:15 at 1500'

WIND: 040° at 5 mph (Groton)
 100° at 5 mph (Boston)

WEATHER: Sunny and warm

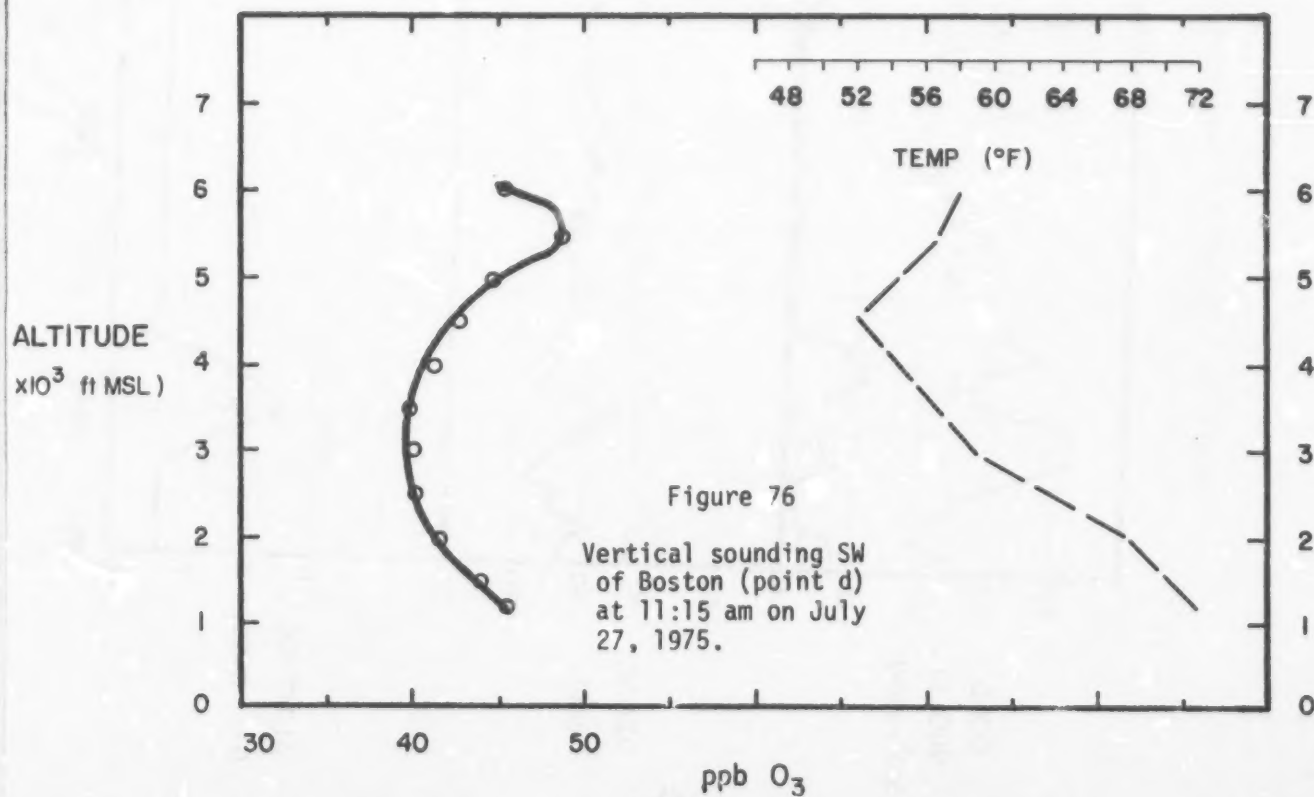
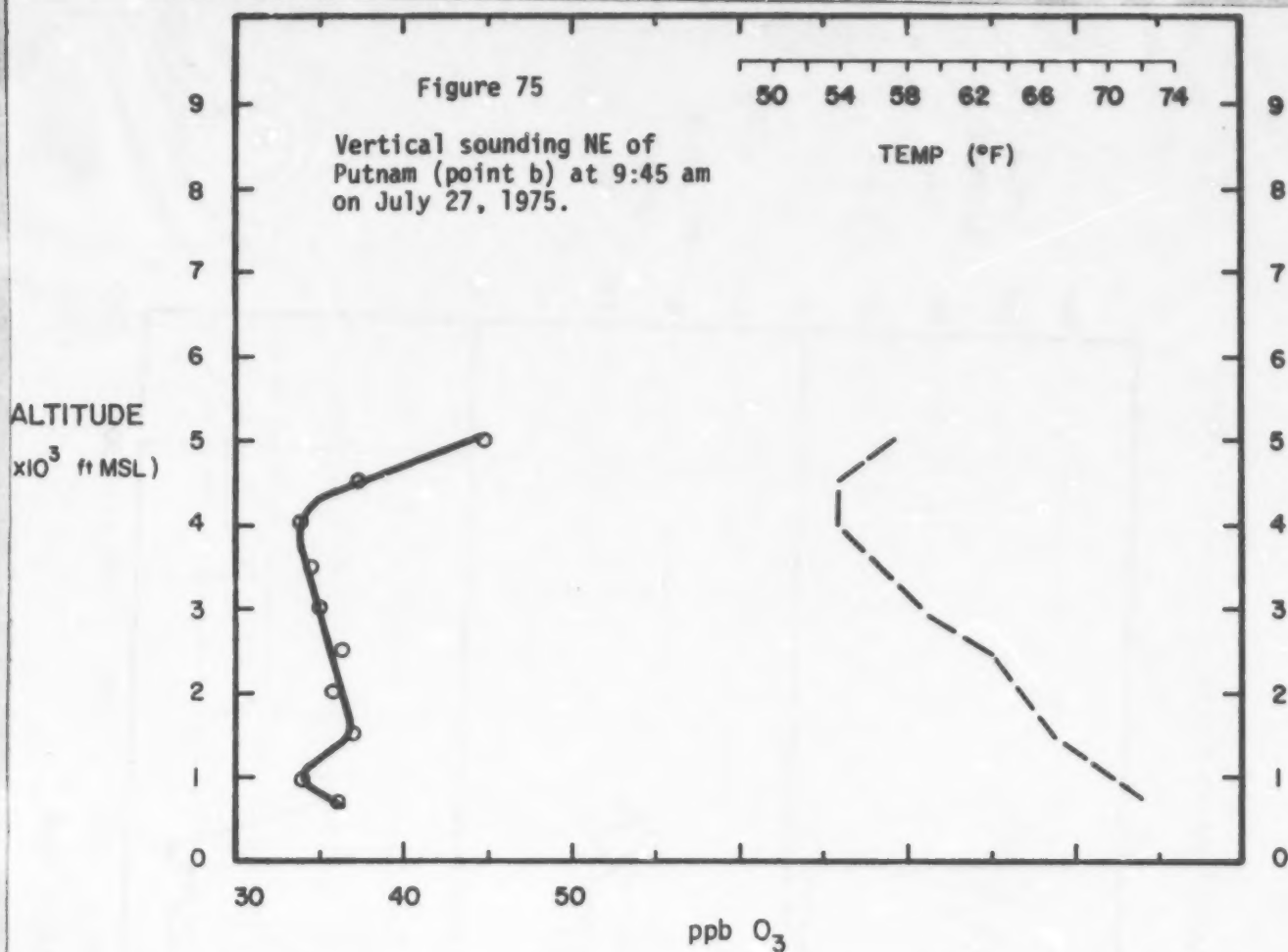
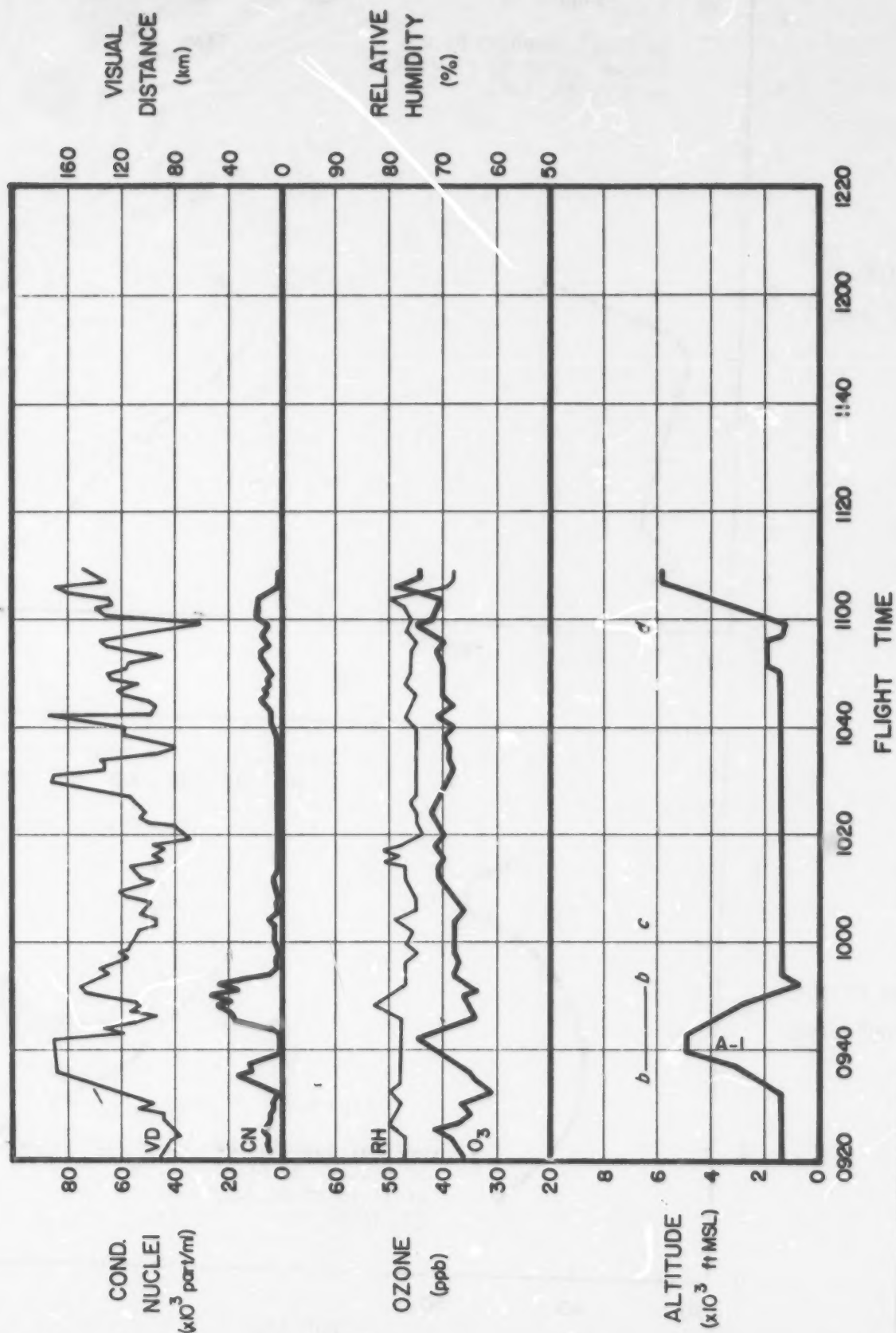


Figure 77. Plot of aircraft data recorded during flight #18 on July 27, 1975.



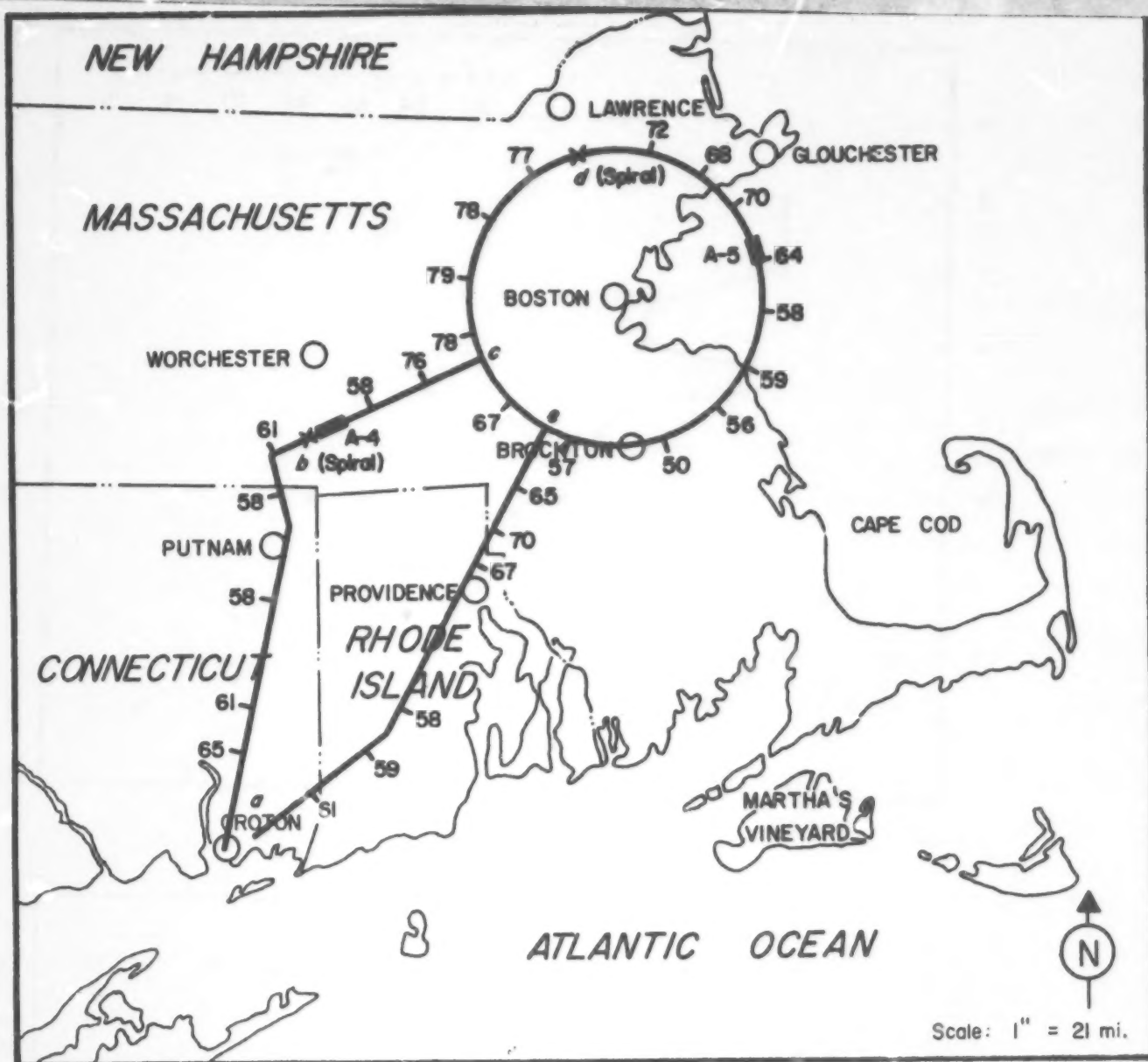


Figure 78. Flight #19 on July 27, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 2:50 PM to 5:55 PM

Leg ab: 2:50 - 3:09 at 1500' MSL
 b: 3:10 - 3:39 spiral ascent to 8000' and descent to 1500'
 bc: 3:40 - 3:48 at 1500'
 cd: 3:49 - 4:29 counterclockwise arc at 1500'
 d: 4:30 - 5:00 spiral ascent to 7000' and descent to 1500'
 de: 5:01 - 5:22 counterclockwise arc at 1500'
 ea: 5:23 - 5:55 at 1500'

WIND: 180° at 10 mph (Groton)
 120° at 12 mph (Boston)

WEATHER: Sunny and warm

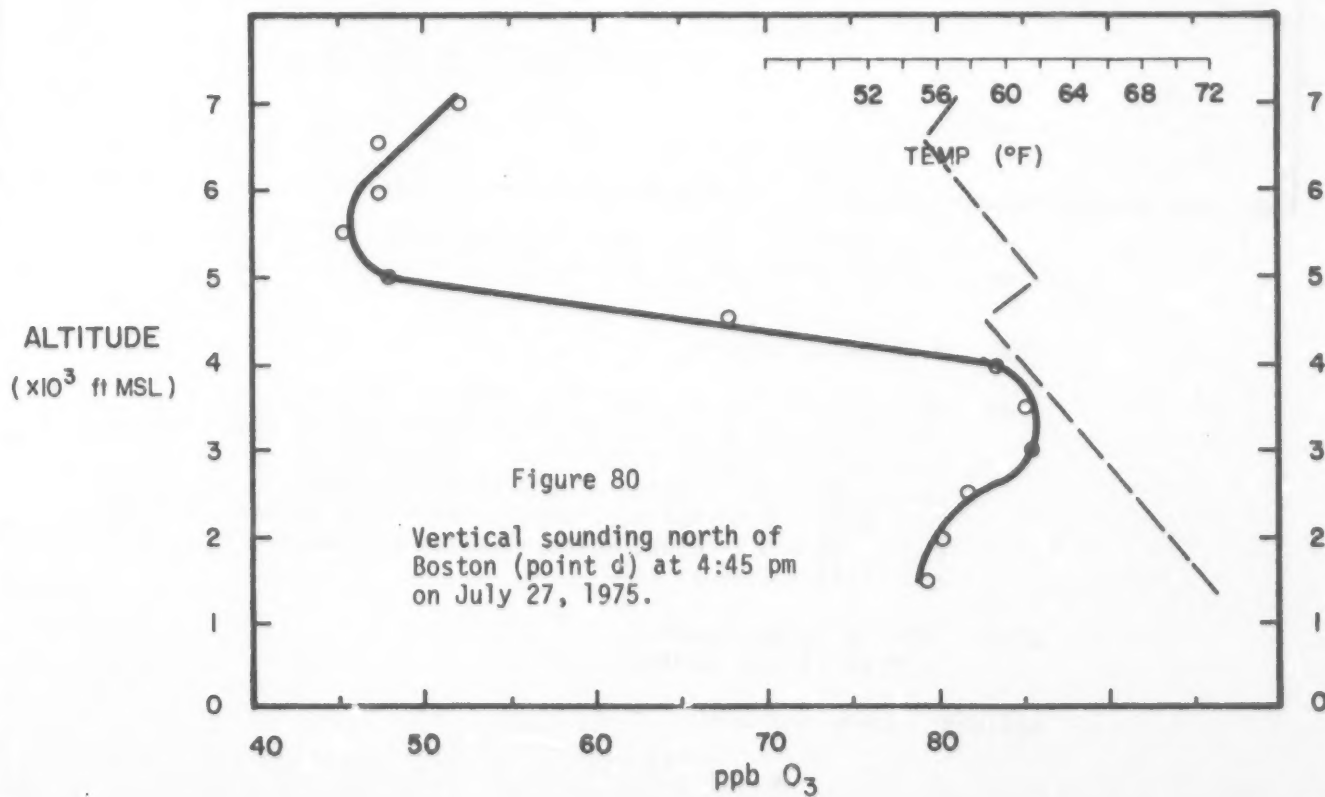
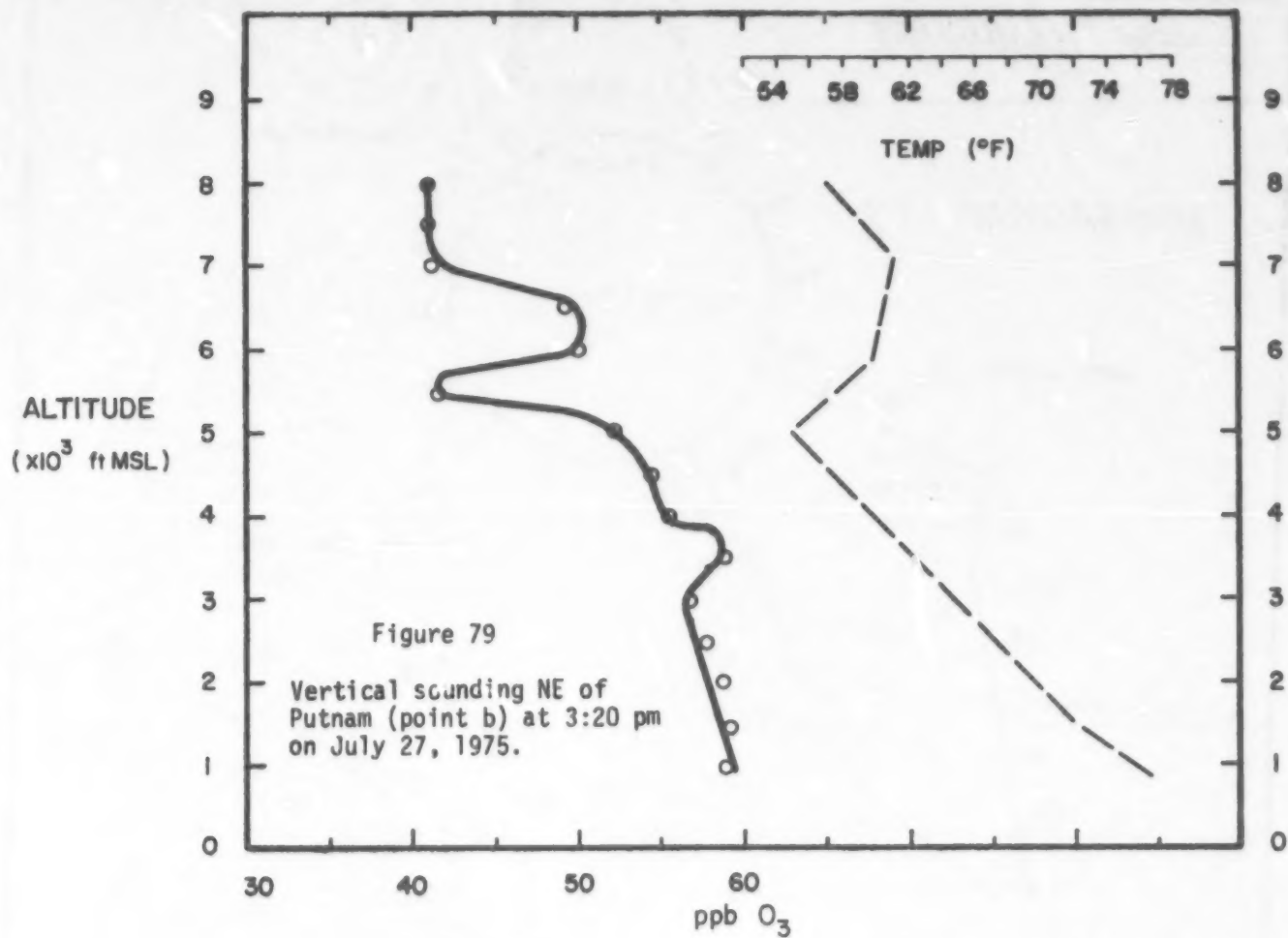
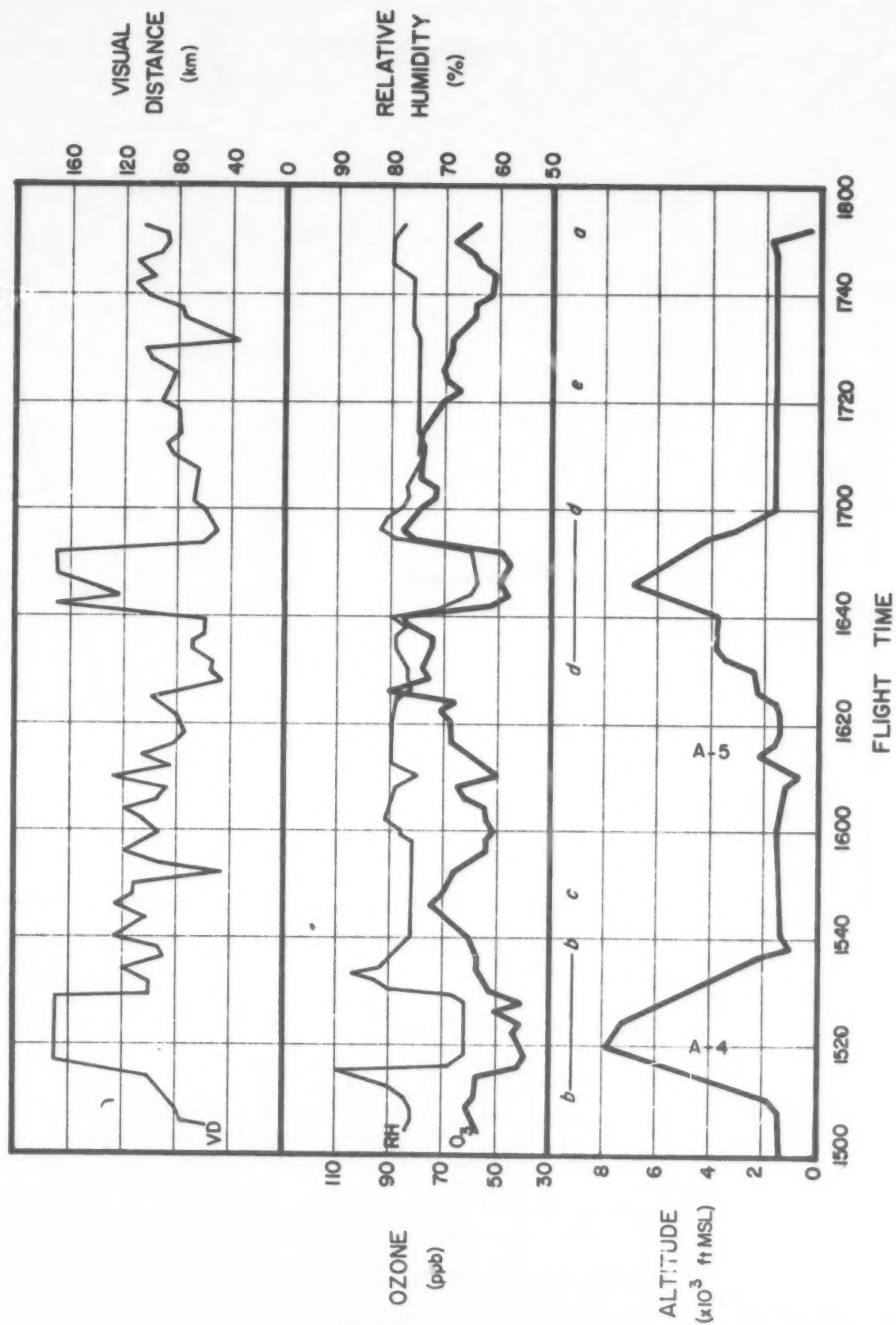


Figure 81. Plot of aircraft data recorded during flight #19 on July 27, 1975.



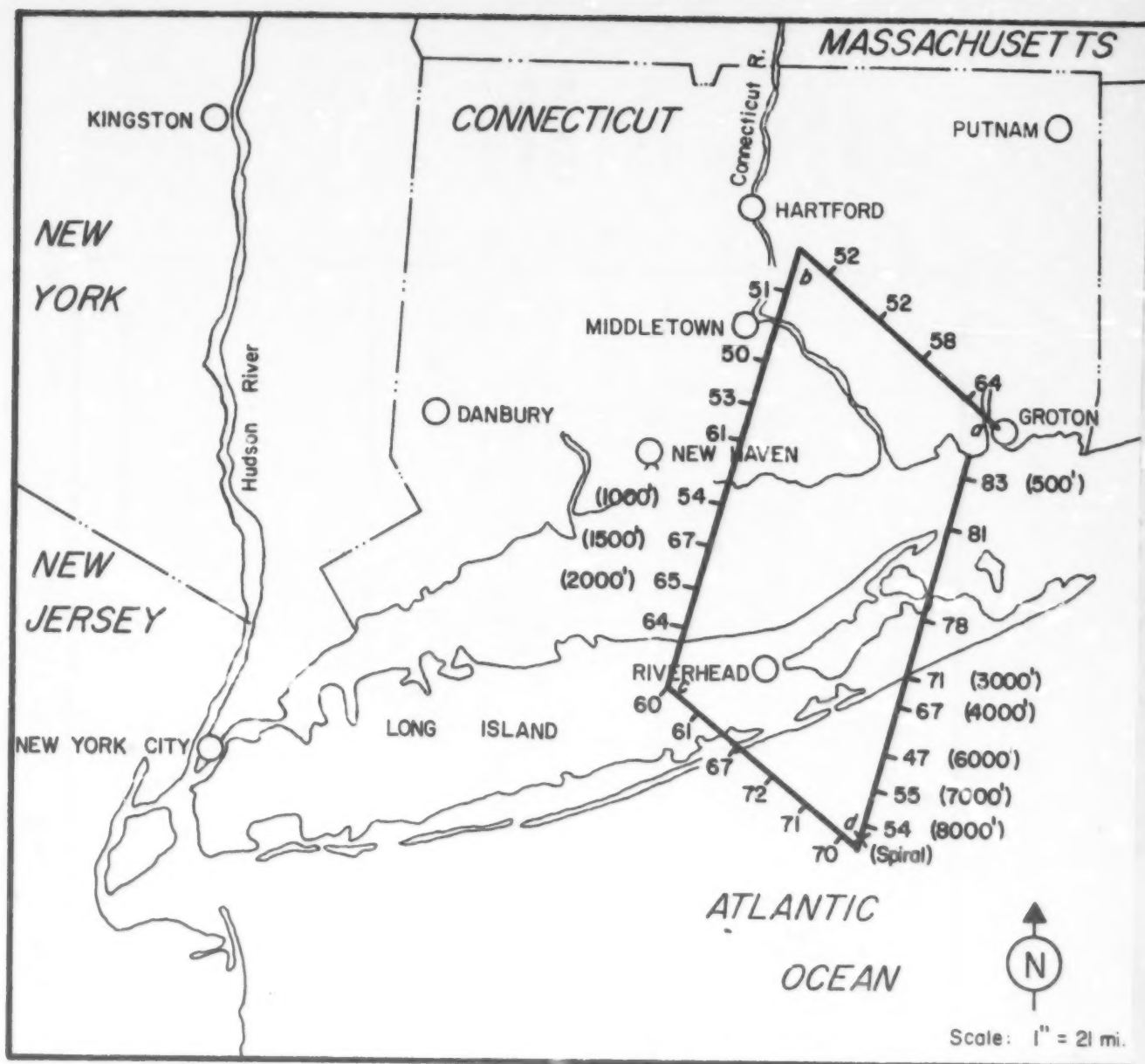


Figure 82. Flight #20 on July 28, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 10:05 AM to 11:45 AM

Leg ab: 10:05 - 10:18 at 1500' MSL
 bc: 10:19 - 10:43 between 1000' and 2000'
 cd: 10:44 - 10:58 between 500' and 2000'
 d: 10:59 - 11:15 spiral ascent to 8000'
 da: 11:16 - 11:45 slant descent from 8000'

WIND: 230° at 20 mph (Groton)
 260° at 8 mph (New York)

WEATHER: Cloudy and warm

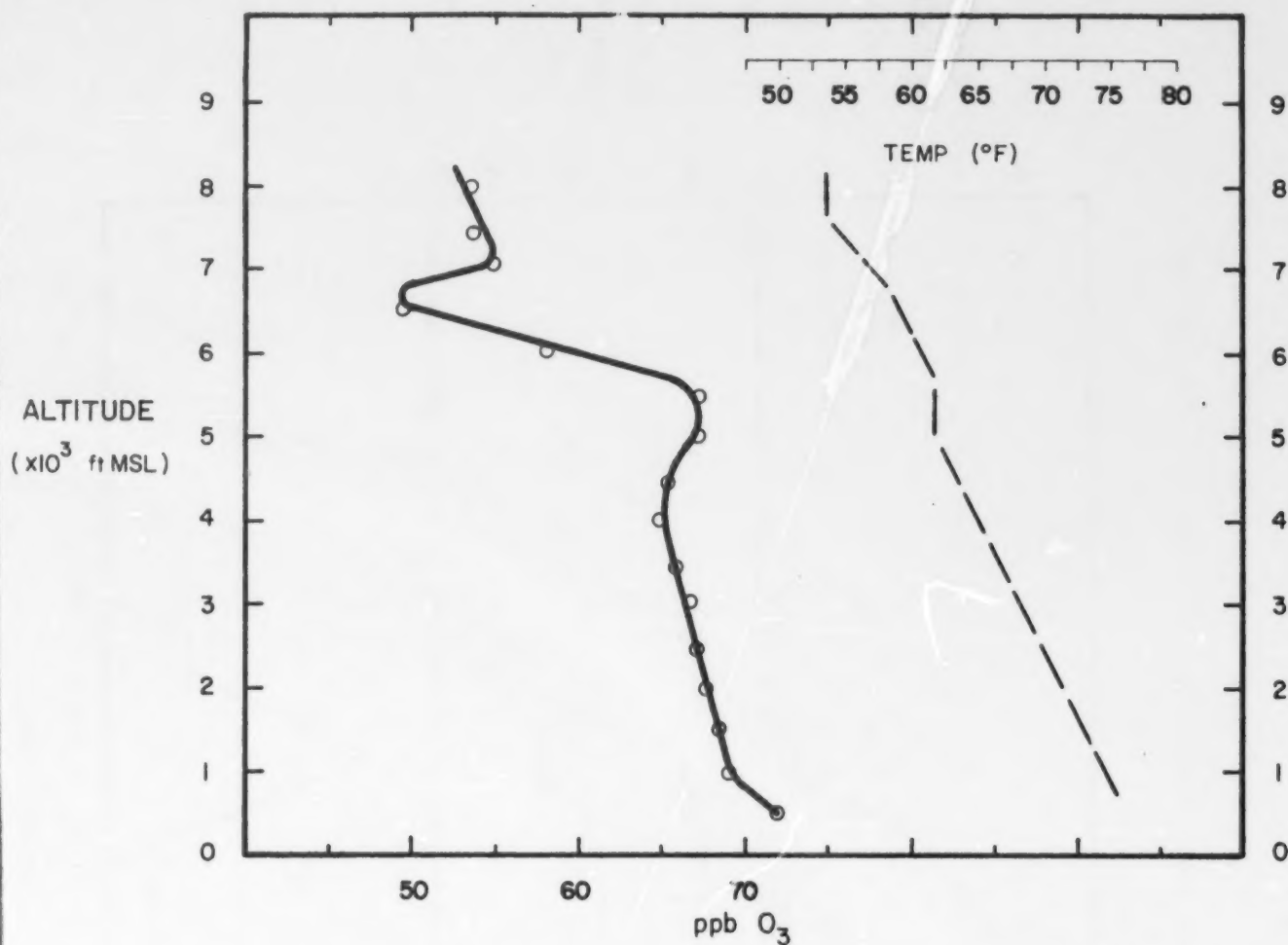
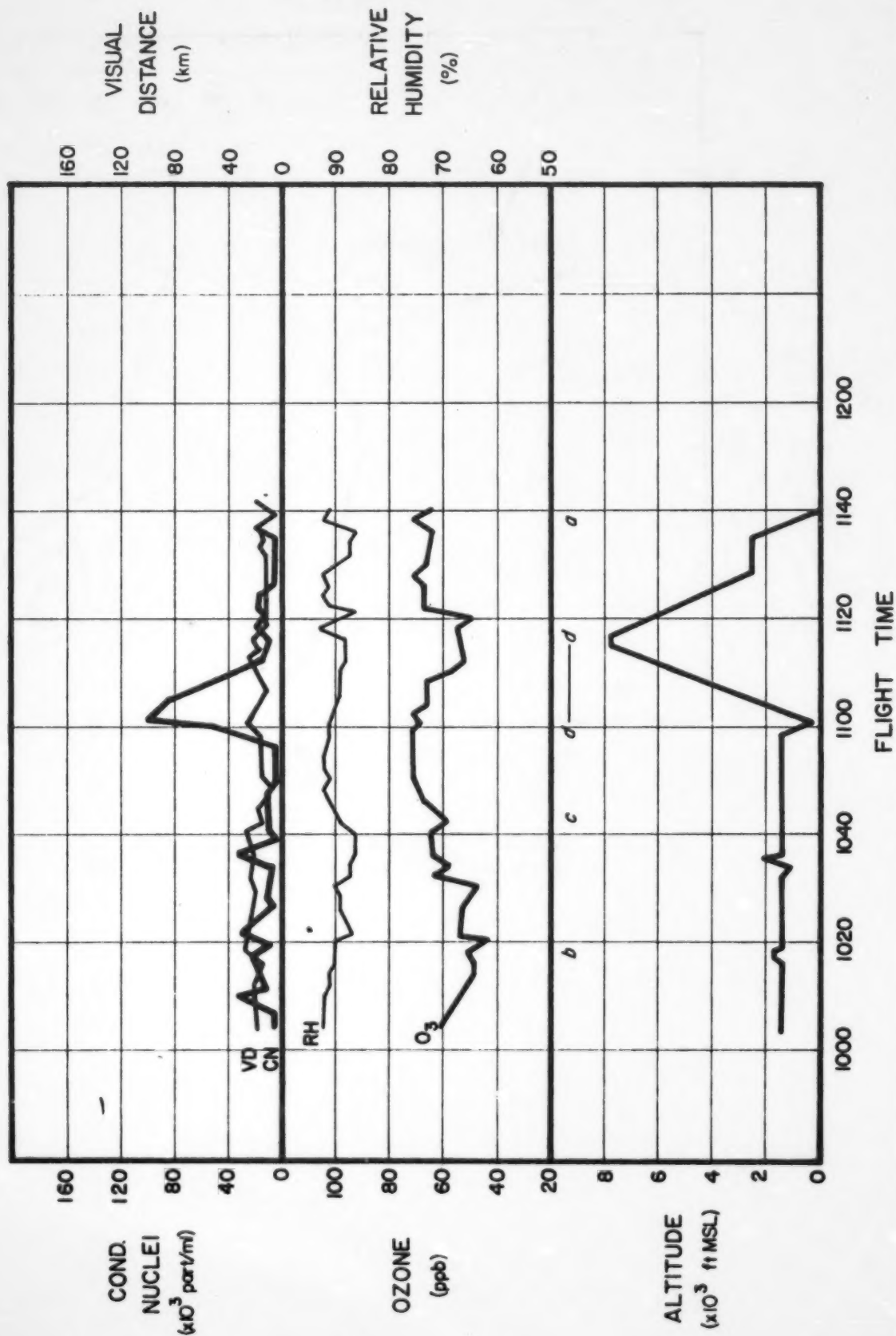


Figure 83. Vertical ozone and temperature profiles over Atlantic Ocean (point d) at 11:05 am on July 28, 1975.

Figure 84. Plot of aircraft data recorded during flight #20 on July 28, 1975.



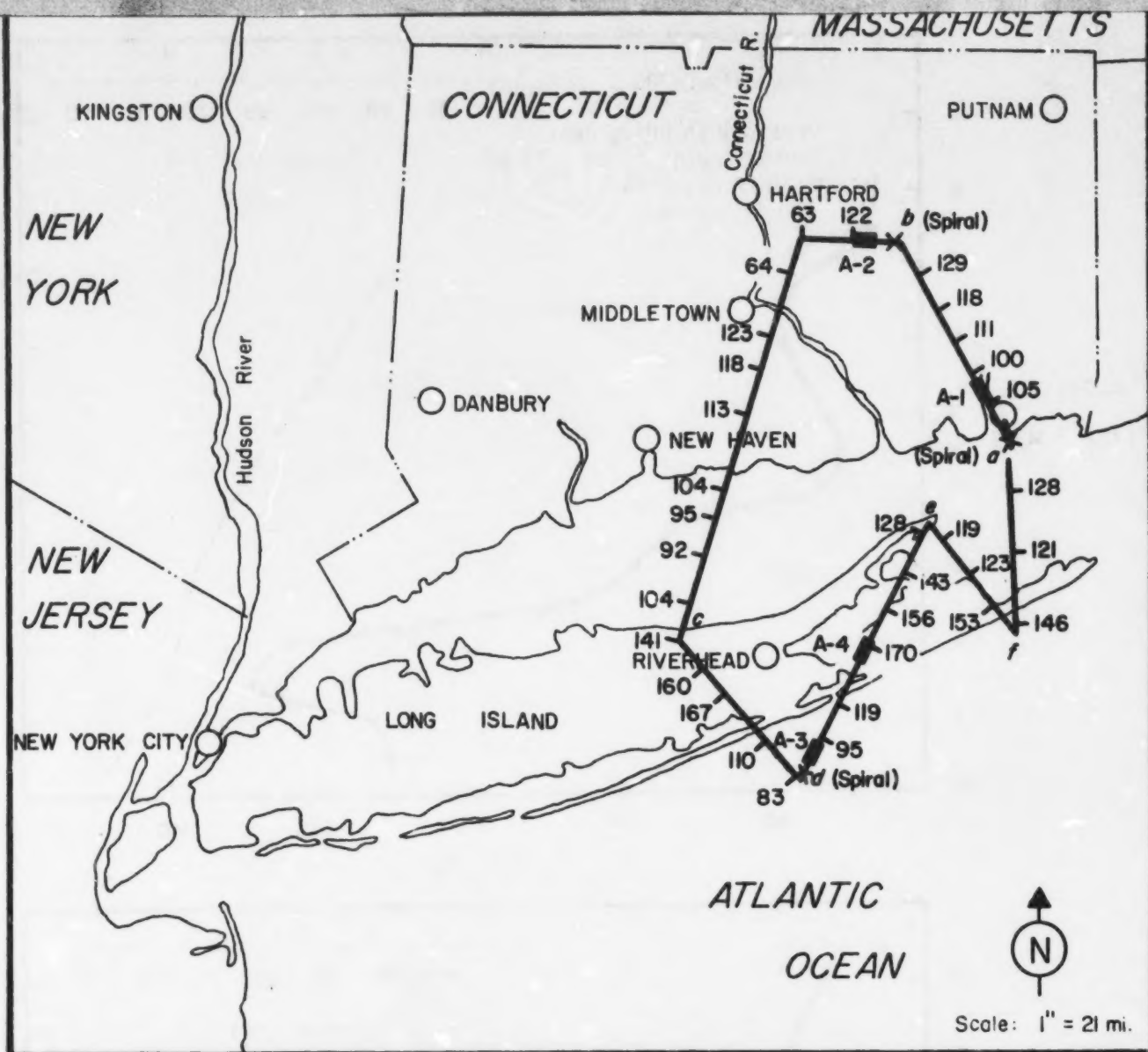


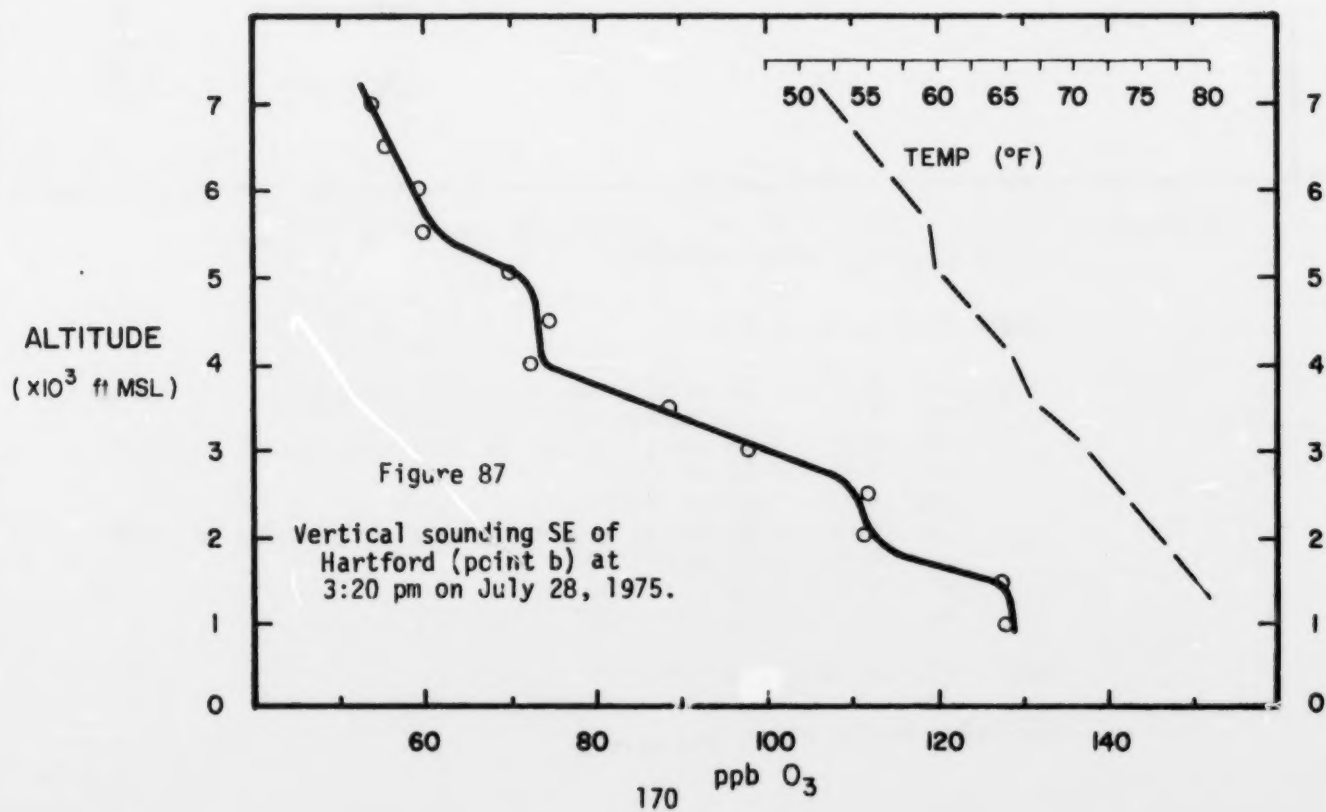
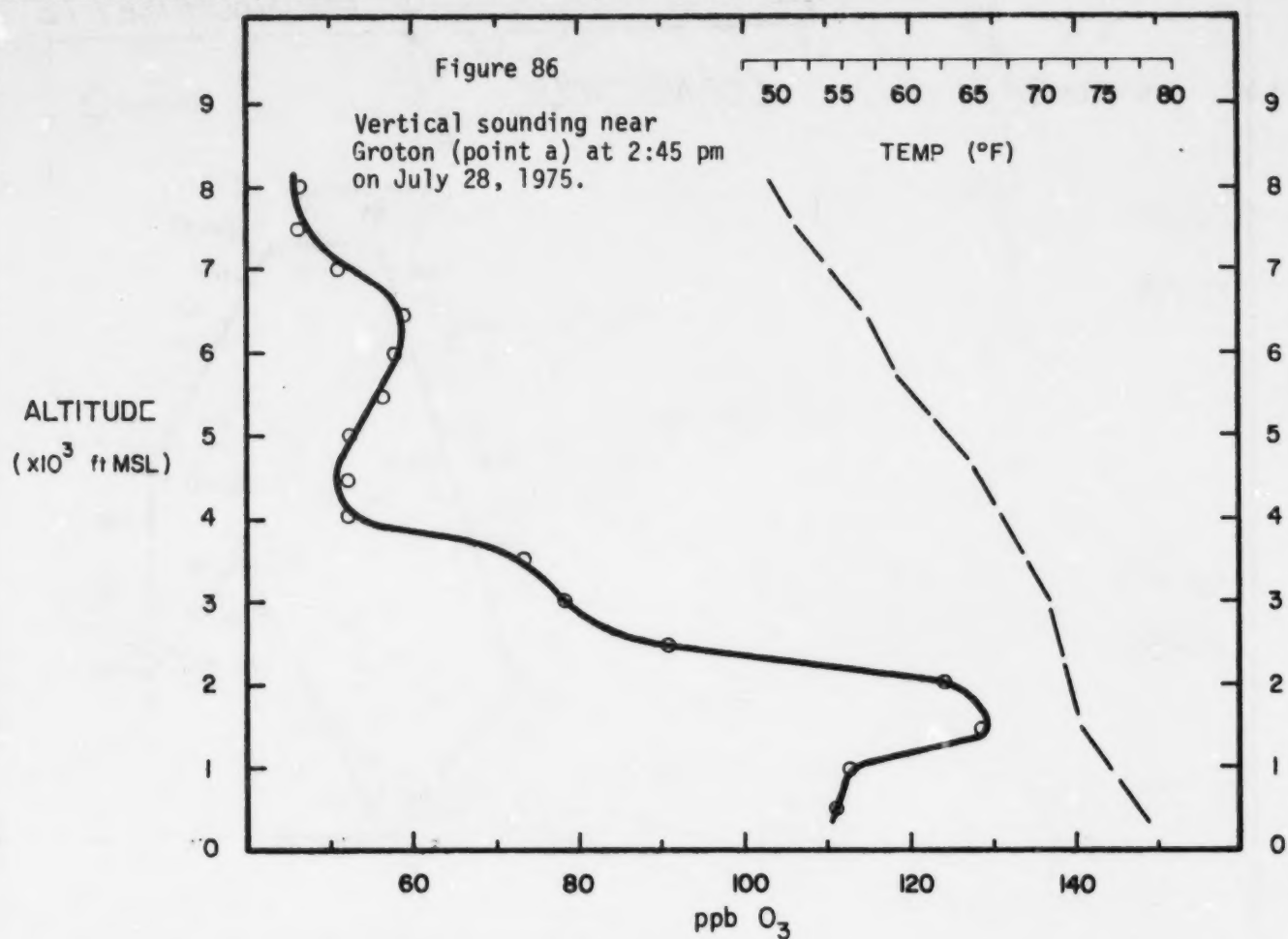
Figure 85. Flight #21 on July 28, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 2:30 PM to 5:20 PM

Leg a: 2:30 - 3:00 spiral ascent to 8000' and descent to 500' MSL
 ab: 3:01 - 3:10 between 1500' and 2000'
 b: 3:11 - 3:35 spiral ascent to 7000' and descent to 1500'
 bc: 3:36 - 4:16 at 1500'
 cd: 4:17 - 4:27 at 1500'
 d: 4:28 - 4:45 spiral ascent to 5000' and descent to 1500'
 de: 4:46 - 5:00 at ~ 1500'
 ef: 5:01 - 5:10 at ~ 1500'
 fa: 5:11 - 5:20 at ~ 1500'

WIND: 225° at 10 mph (Groton)

WEATHER: Partly cloudy and warm



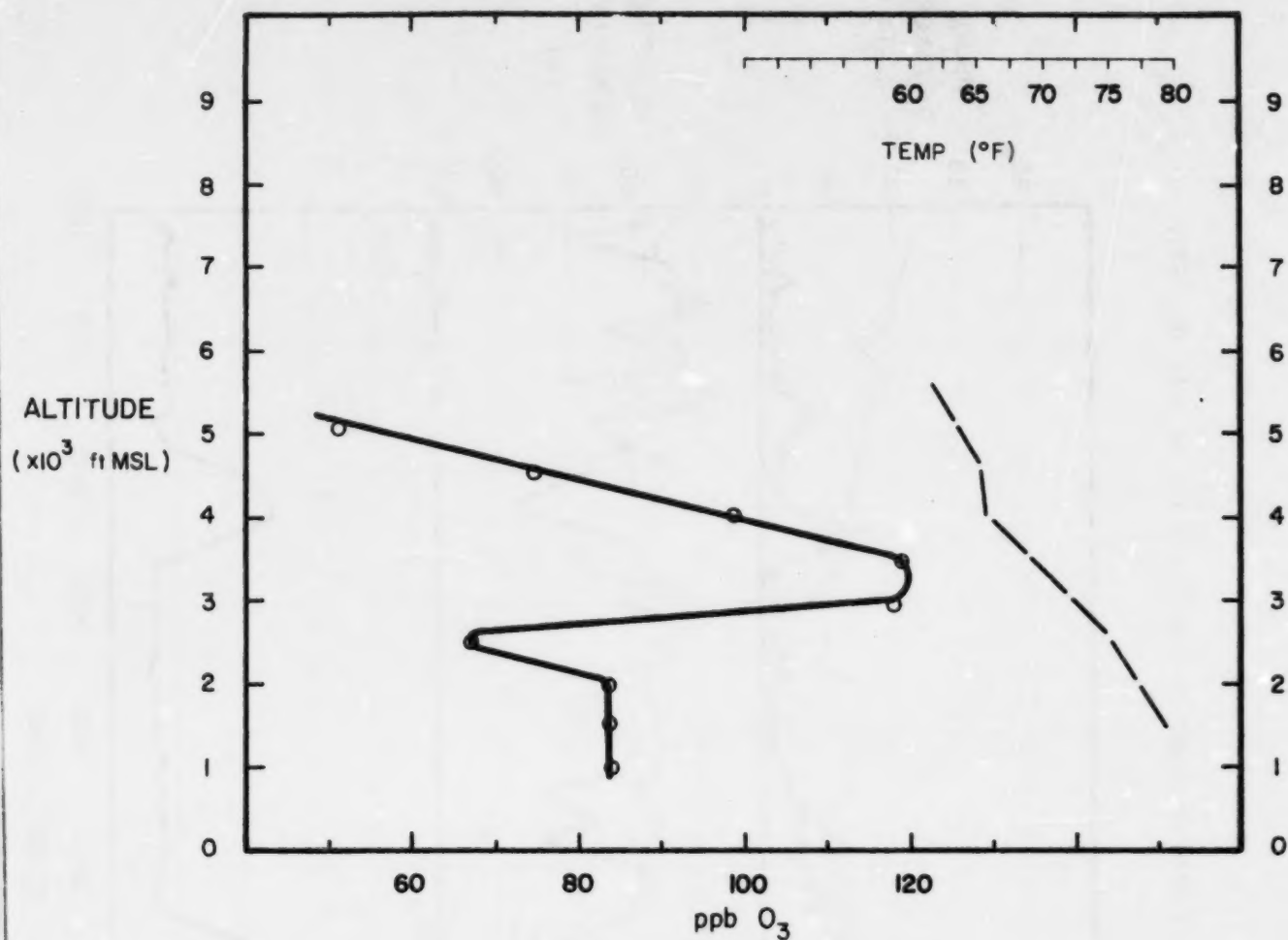
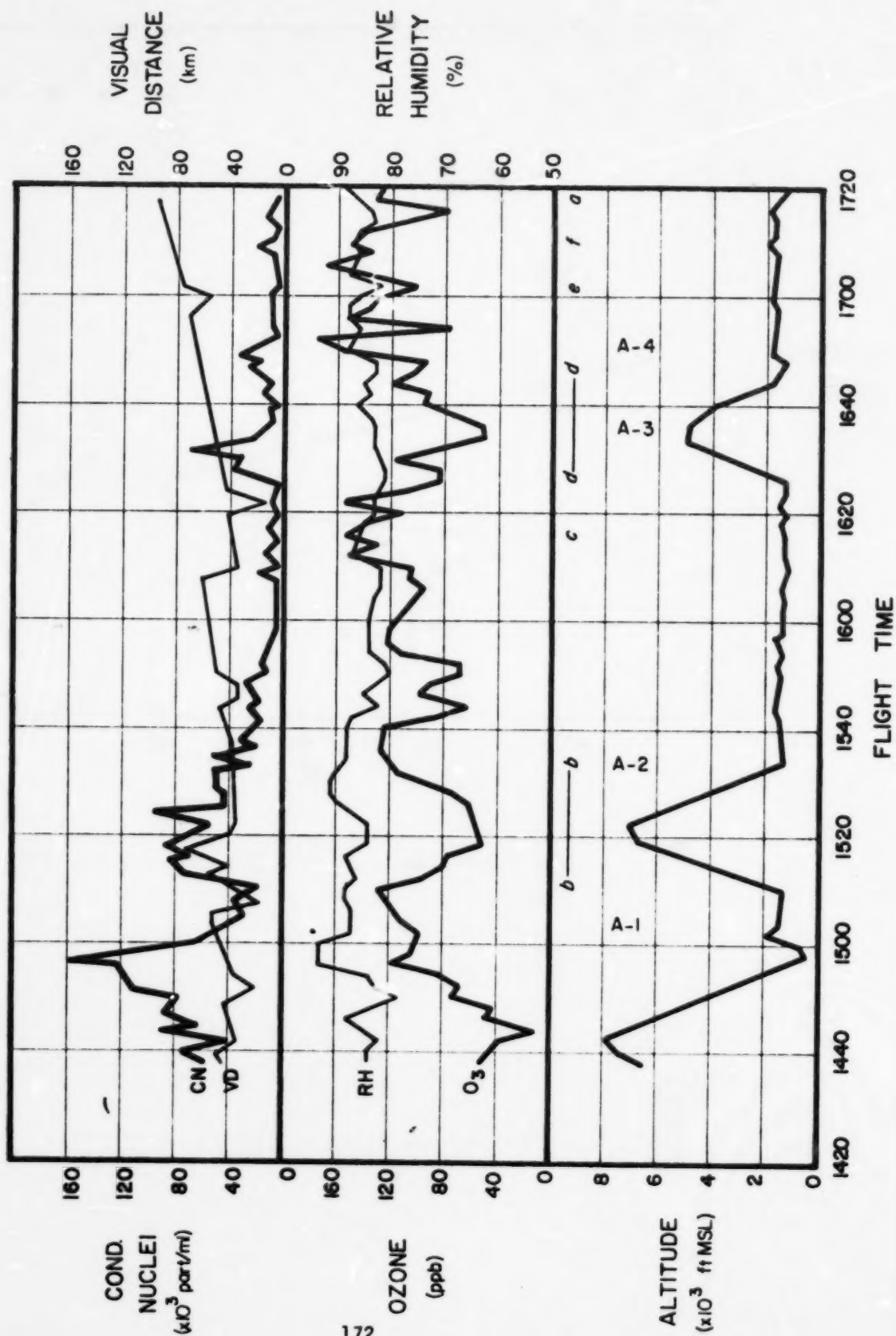


Figure 88. Vertical ozone and temperature profiles south of Long Island (point d) at 4:35 pm on July 28, 1975.

Figure 89. Plot of aircraft data recorded during flight #21 on July 28, 1975.



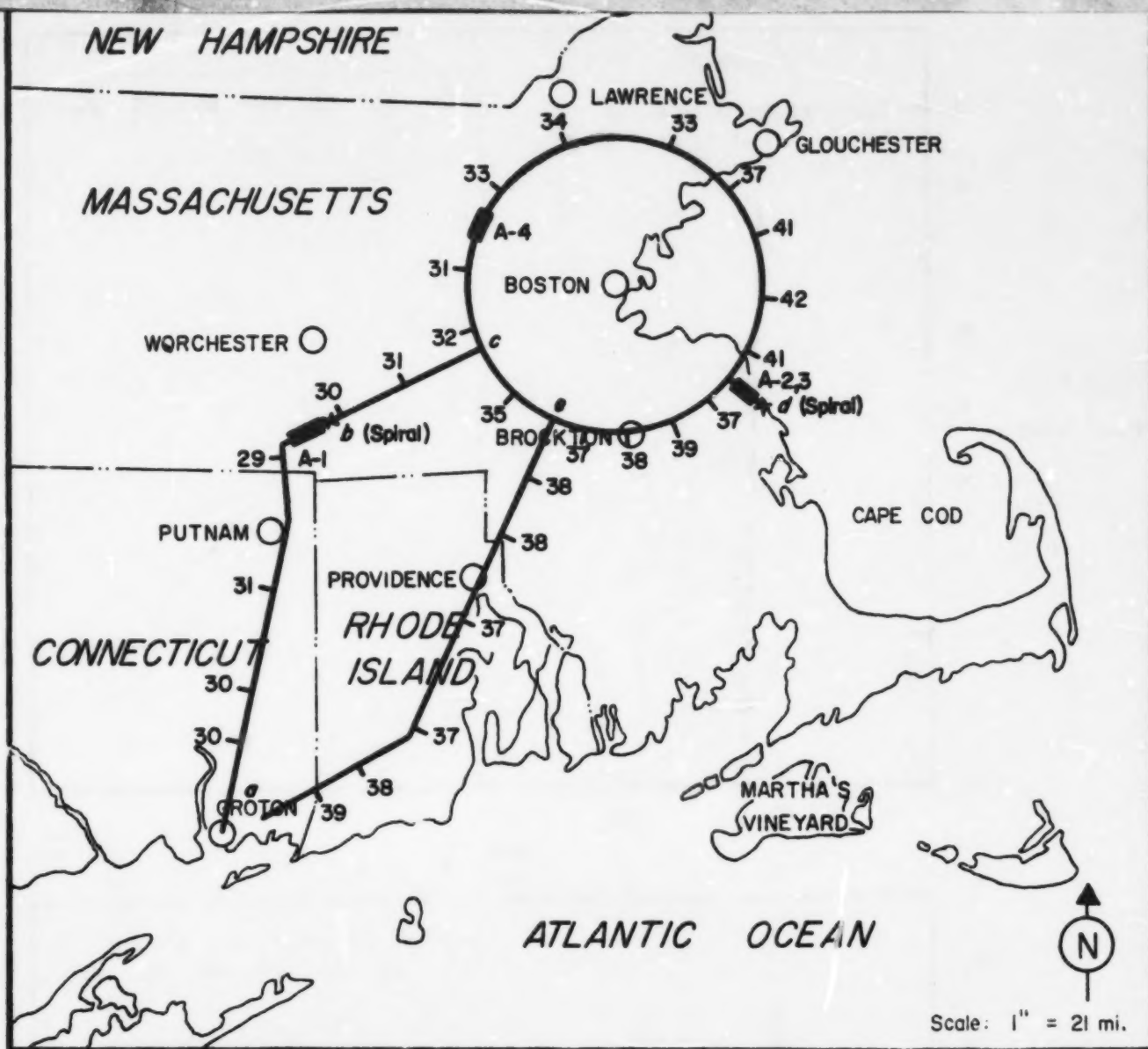


Figure 90. Flight #22 on July 29, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 9:20 AM to 12:20 PM

Leg ab: 9:20 - 9:42 at 1500' MSL
 b: 9:43 - 10:08 spiral ascent to 7000' and descent to 1000'
 bc: 10:09 - 10:15 at 1500'
 cd: 10:16 - 10:34 counterclockwise arc at 1500'
 d: 10:35 - 10:59 spiral ascent to 6000' and descent to 1500'
 de: 11:00 - 11:47 counterclockwise arc at 1500'
 ea: 11:48 - 12:20 at 1500'

WIND: 330° at 8 mph (Groton)
 330° at 11 mph (Boston)

WEATHER: Sunny and warm

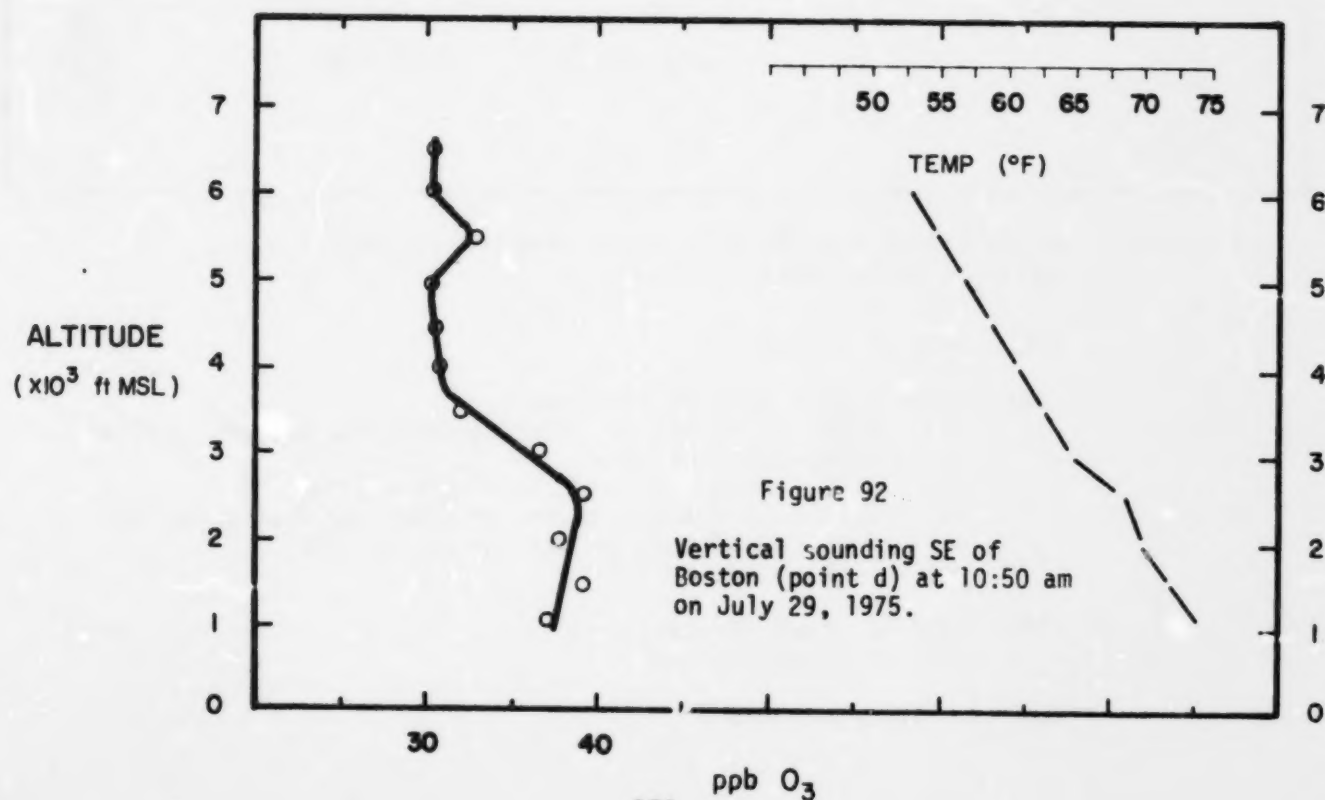
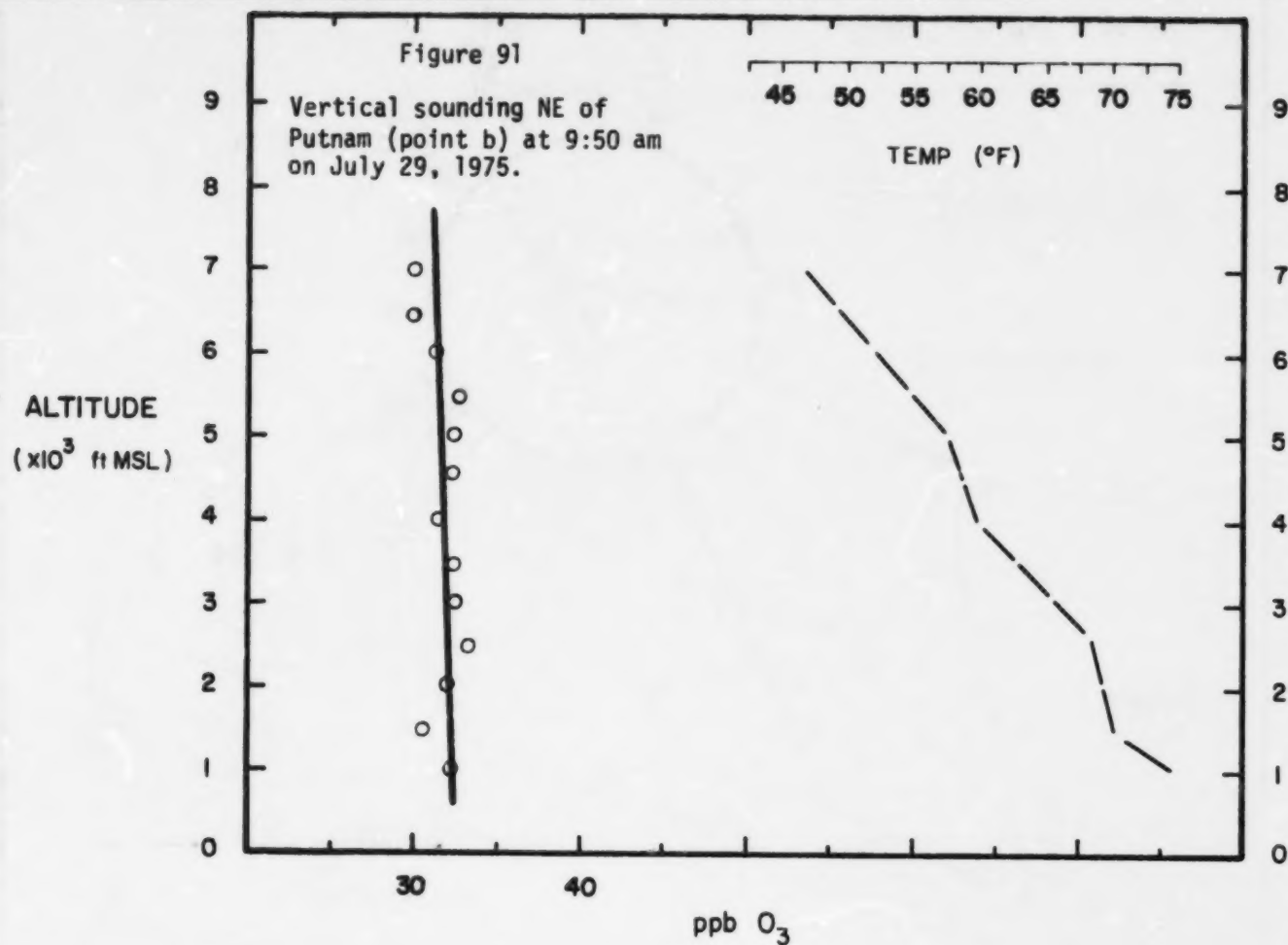
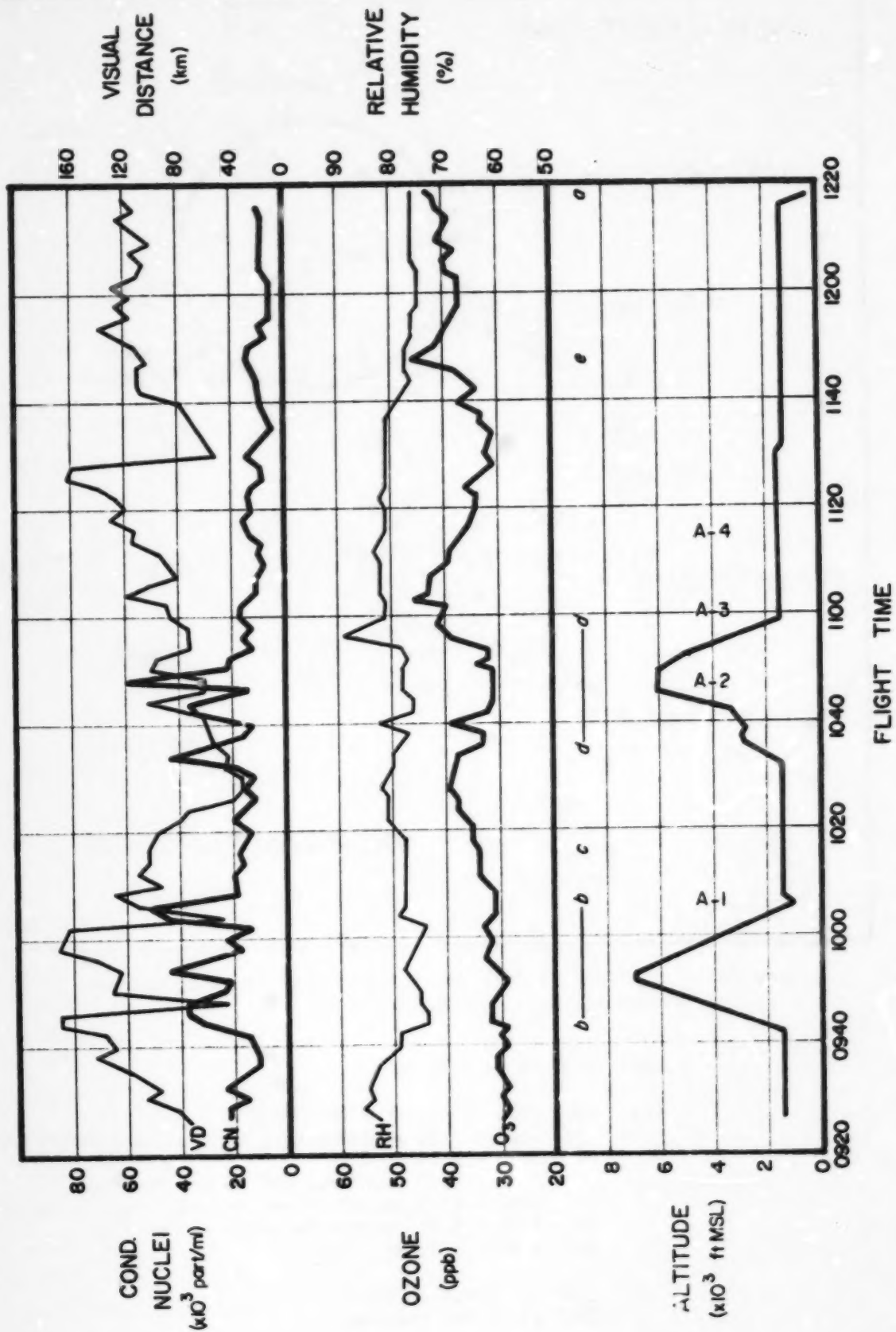


Figure 93. Plot of aircraft data recorded during flight #22 on July 29, 1975.



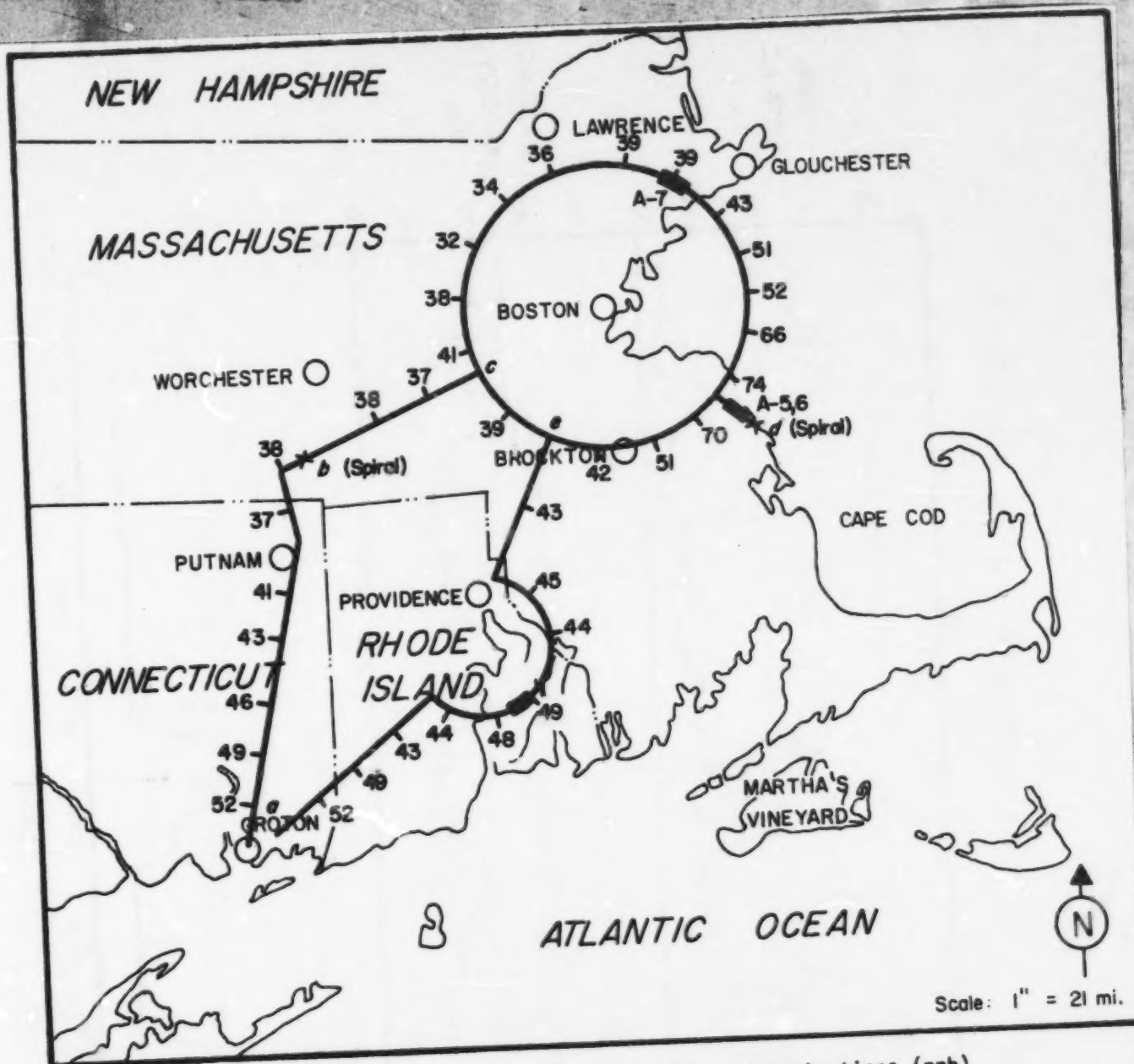


Figure 94. Flight #23 on July 29, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 2:35 PM to 5:35 PM

Leg ab: 2:35 - 3:01 at 1500' MSL
 b: 3:02 - 3:25 spiral ascent to 7000' and descent to 1500'
 bc: 3:26 - 3:34 at 1500'
 cd: 3:35 - 3:50 counterclockwise arc at 1500'
 d: 3:51 - 4:15 spiral ascent to 7000' and descent to 500'
 de: 4:16 - 5:01 counterclockwise arc at 1500'
 ea: 5:02 - 5:35 at ~ 1500'

WIND: 320° at 8 mph (Groton)
 330° at 10 mph (Boston)

WEATHER: Sunny and hot

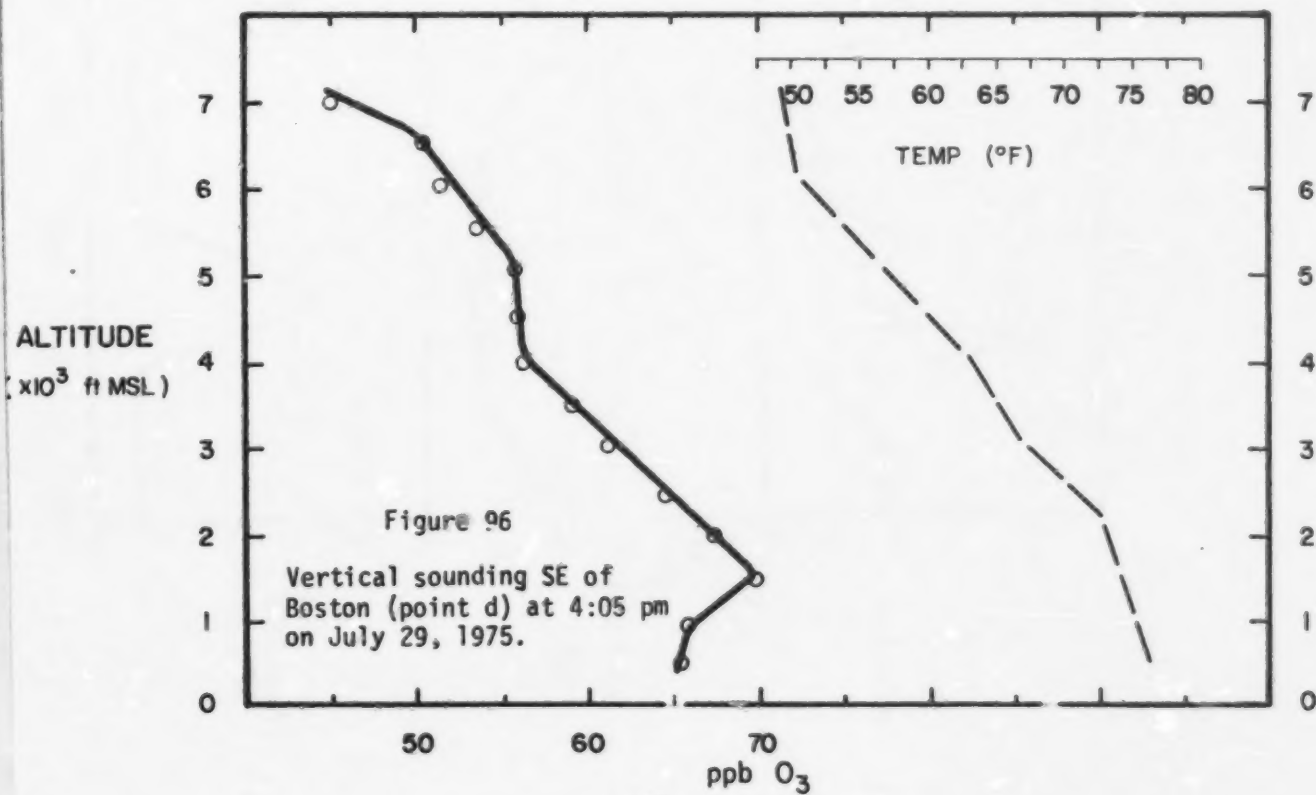
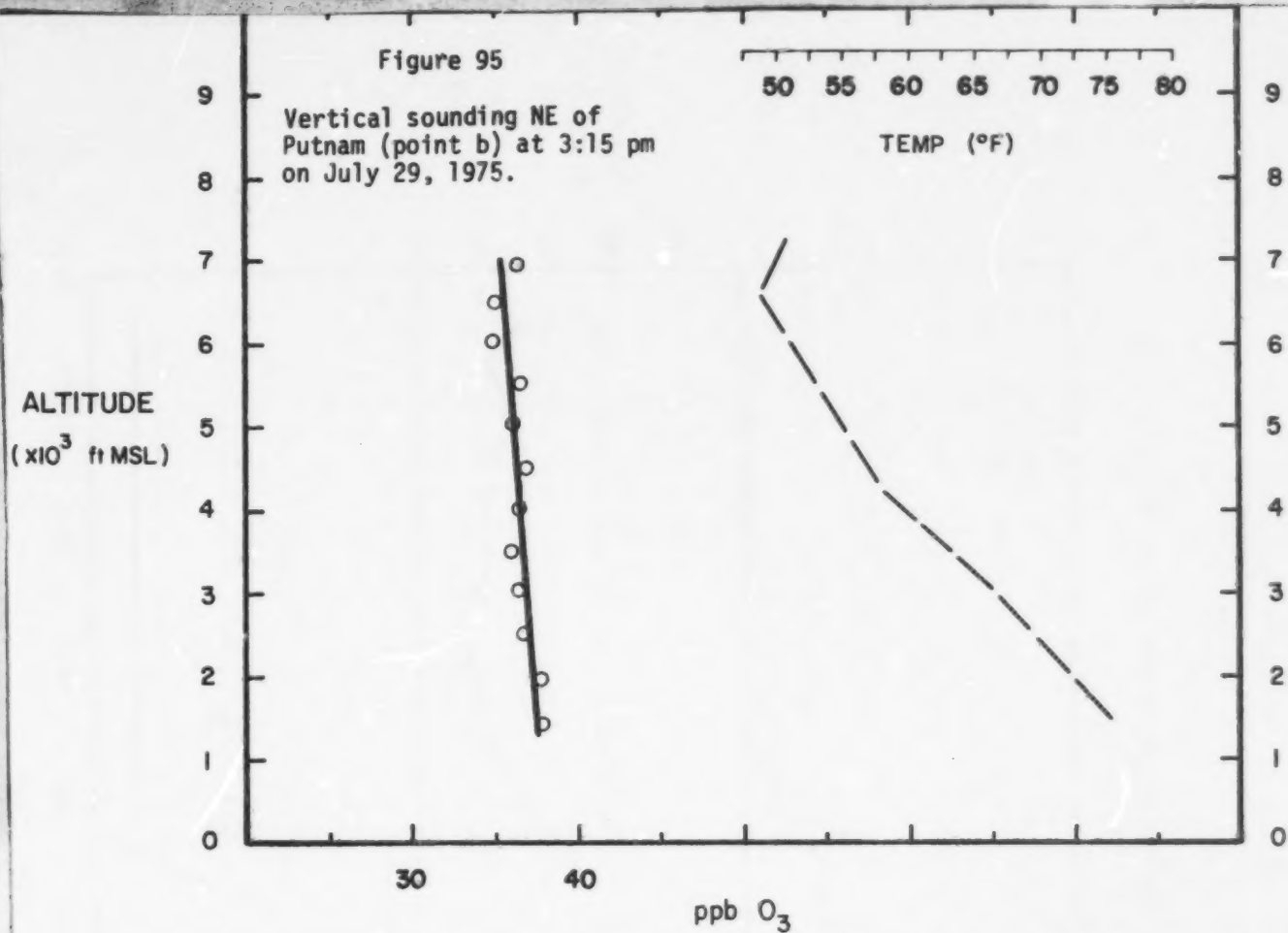
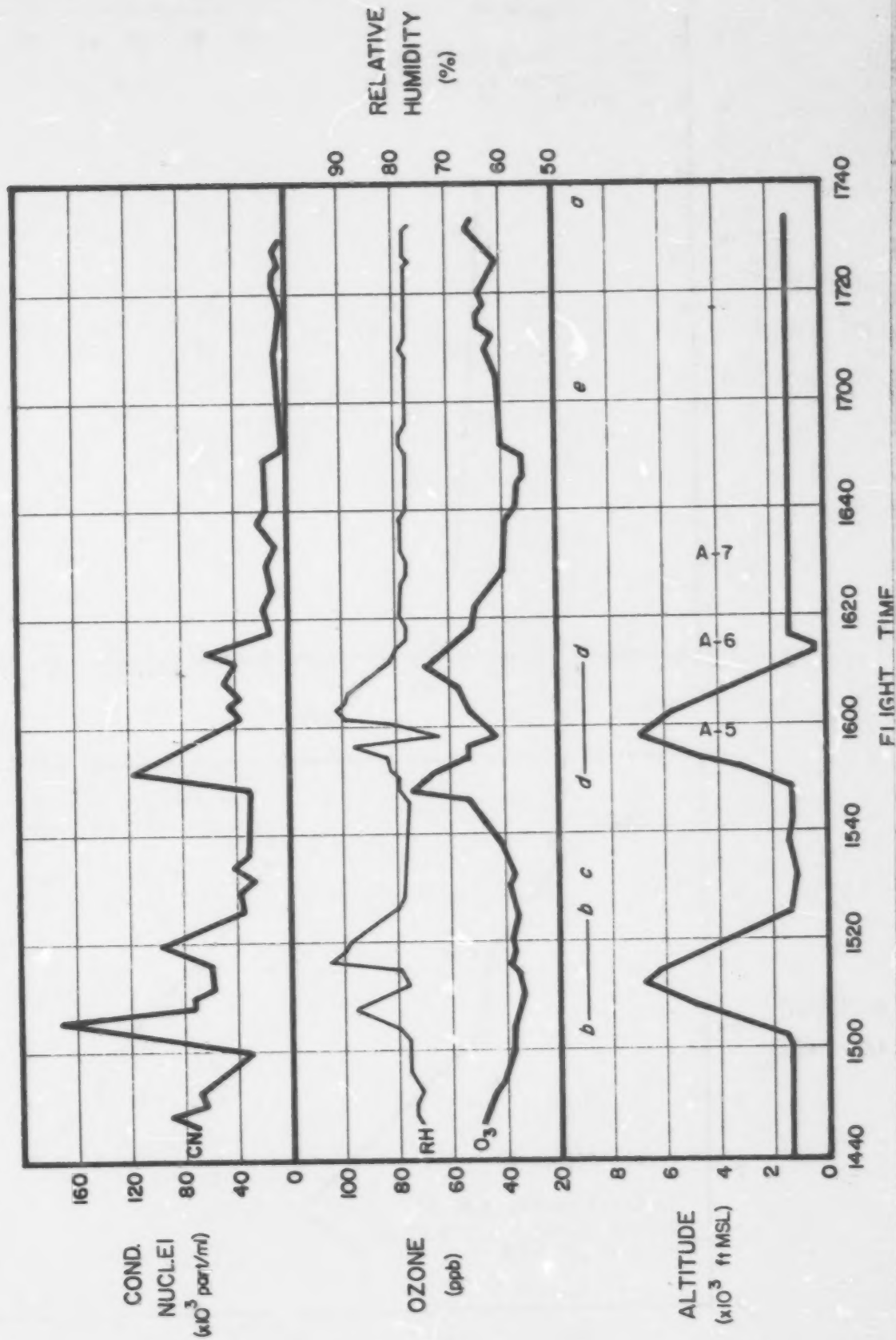


Figure 97. Plot of aircraft data recorded during flight #23 on July 29, 1975.



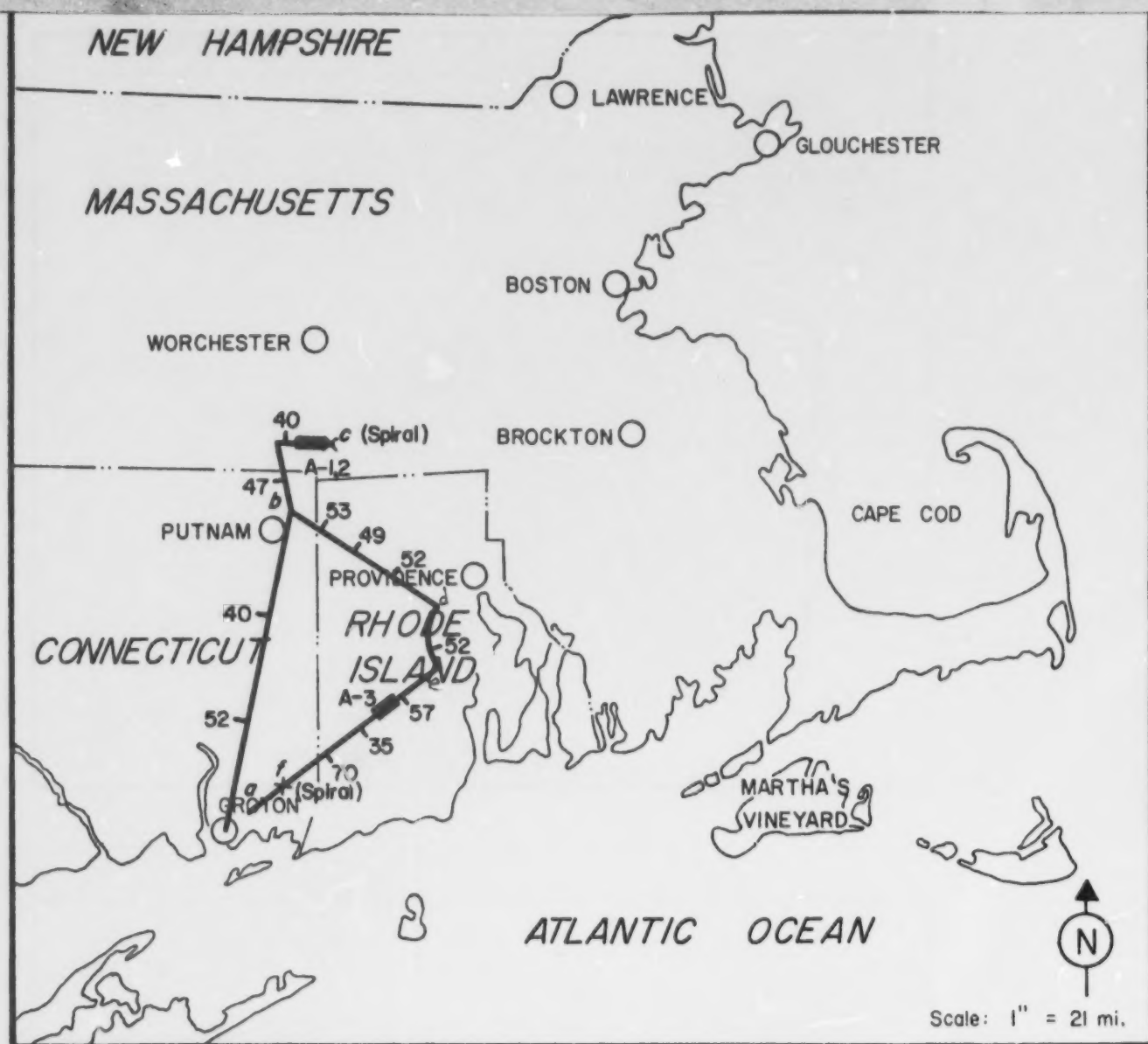


Figure 98. Flight #24 on July 30, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 9:05 PM to 10:55 PM

Leg ab: 9:05 - 9:20 at 1500' MSL
 bc: 9:21 - 9:26 at 1500'
 c: 9:27 - 9:56 spiral ascent to 6000' and descent to 1500'
 cb: 9:57 - 10:03 at 1500'
 bf: 10:04 - 10:32 at 1500'
 f: 10:33 - 10:55 spiral ascent to 5000' and descent to landing

WIND: 250° at 5 mph (Groton)

WEATHER: Clear and cool

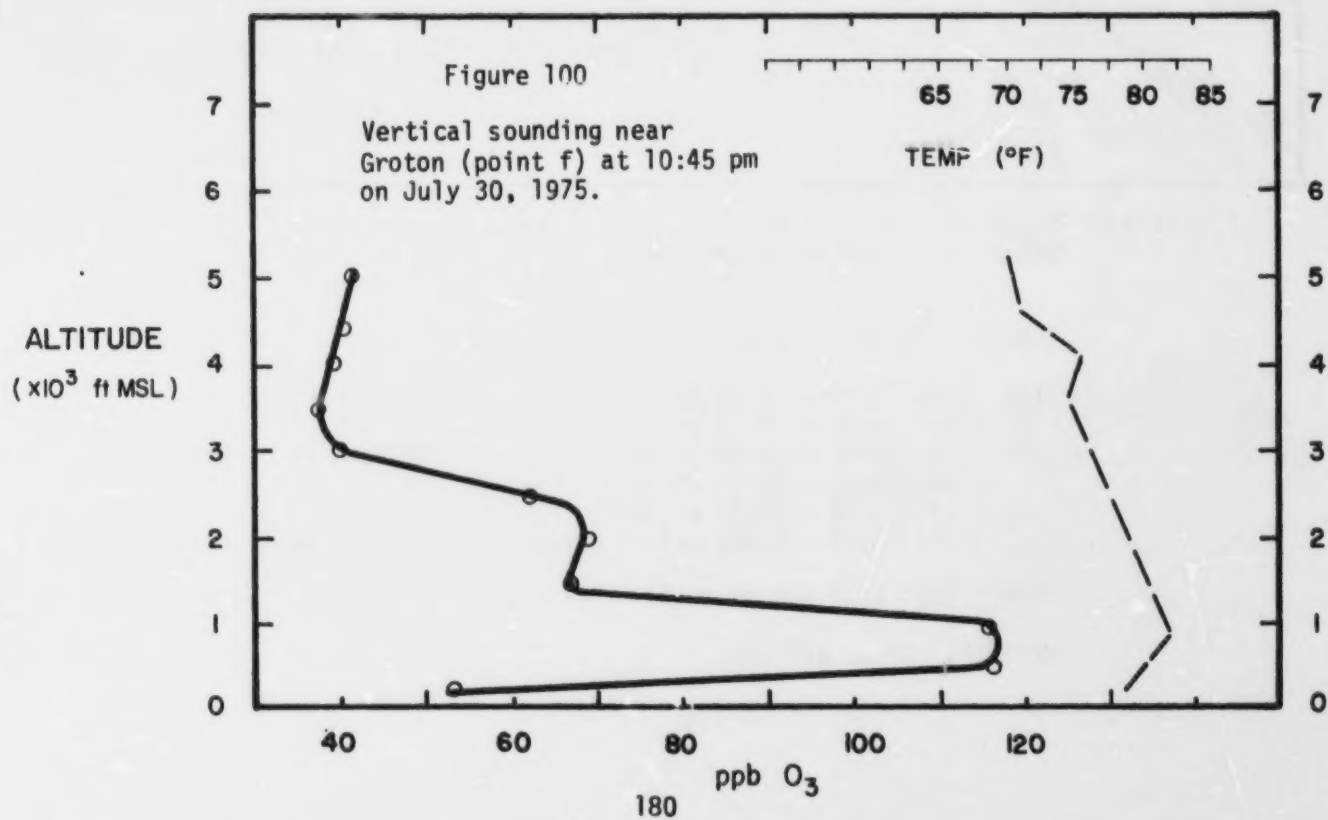
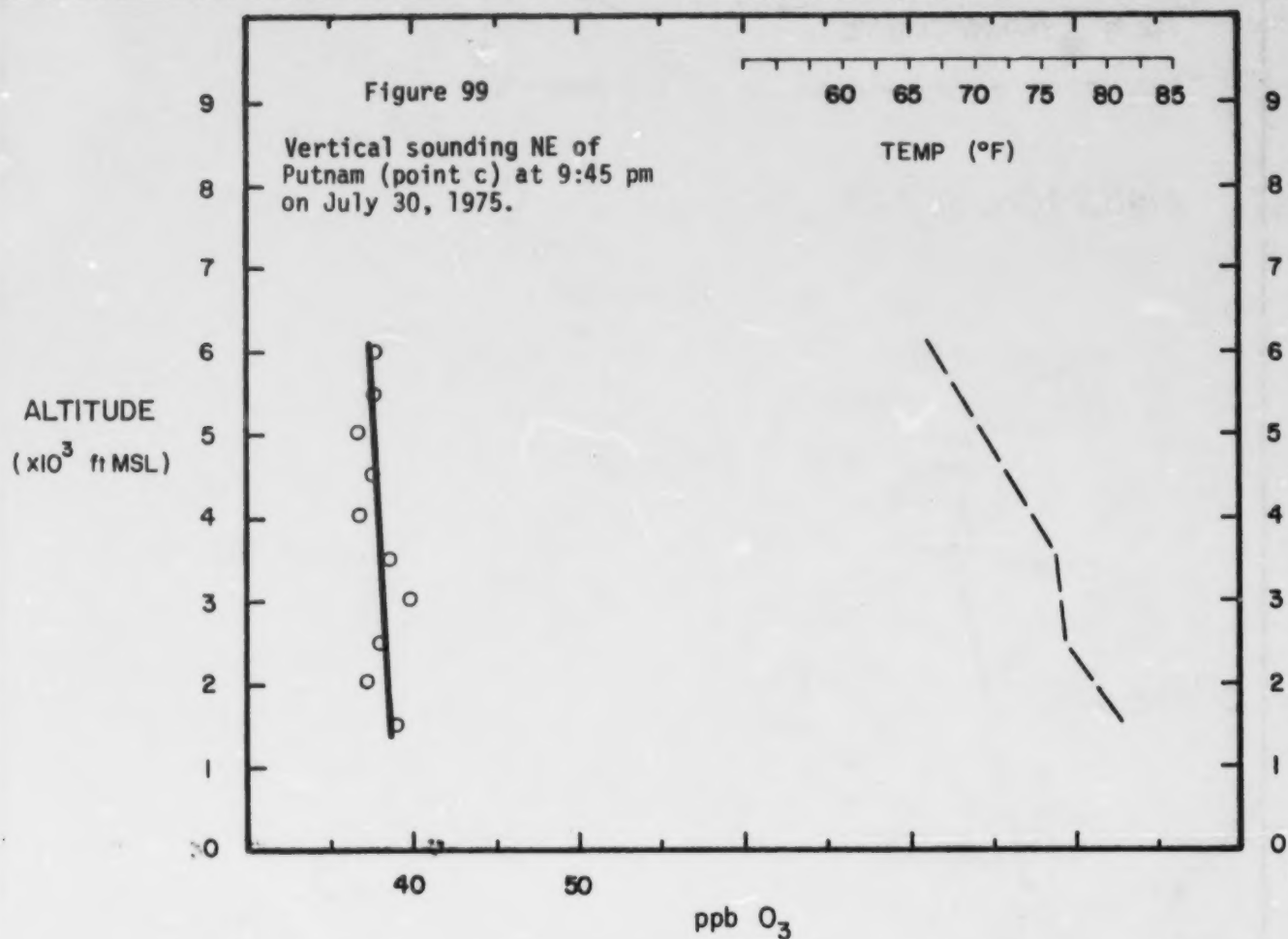
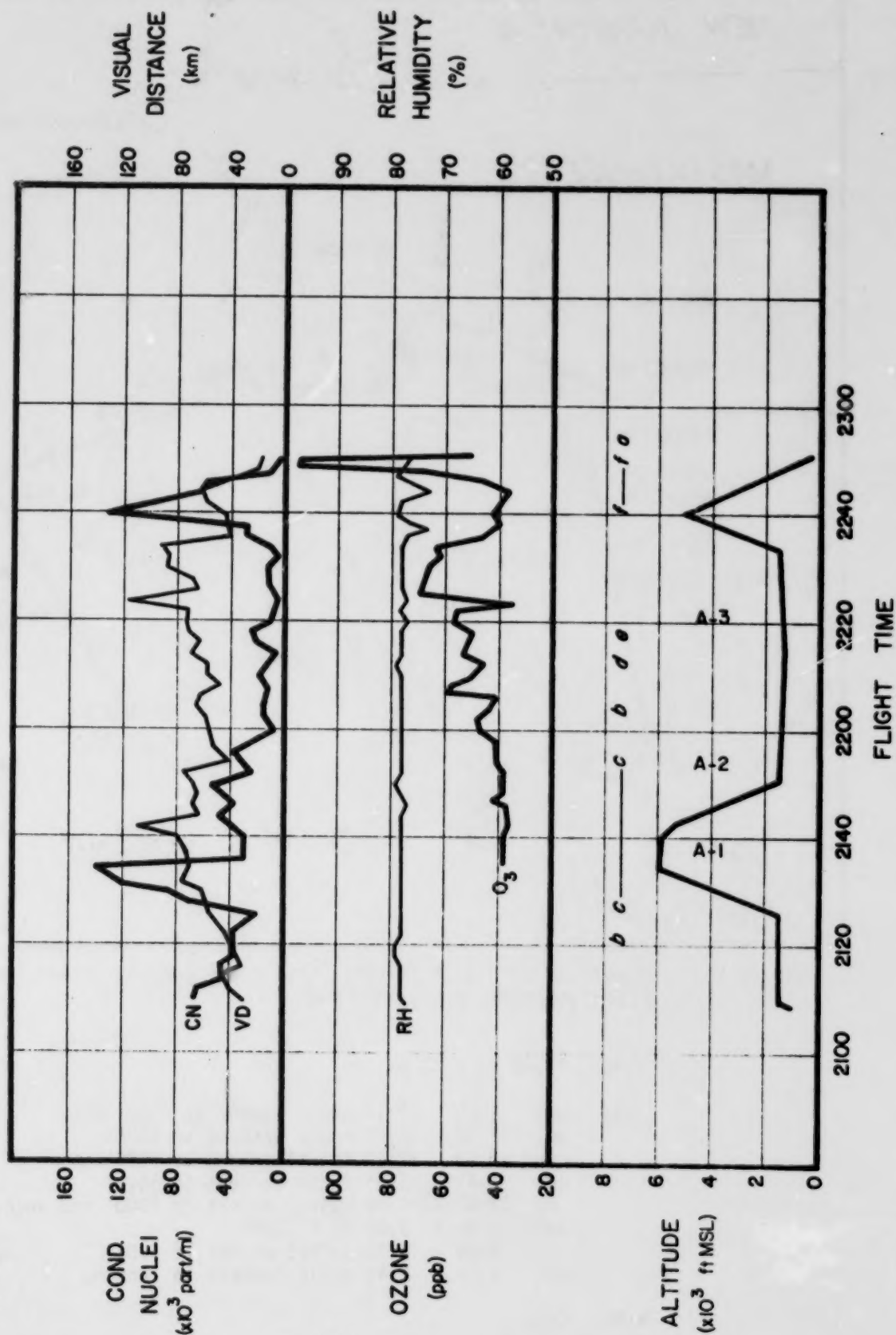


Figure 101. Plot of aircraft data recorded during flight #24 on July 30, 1975.



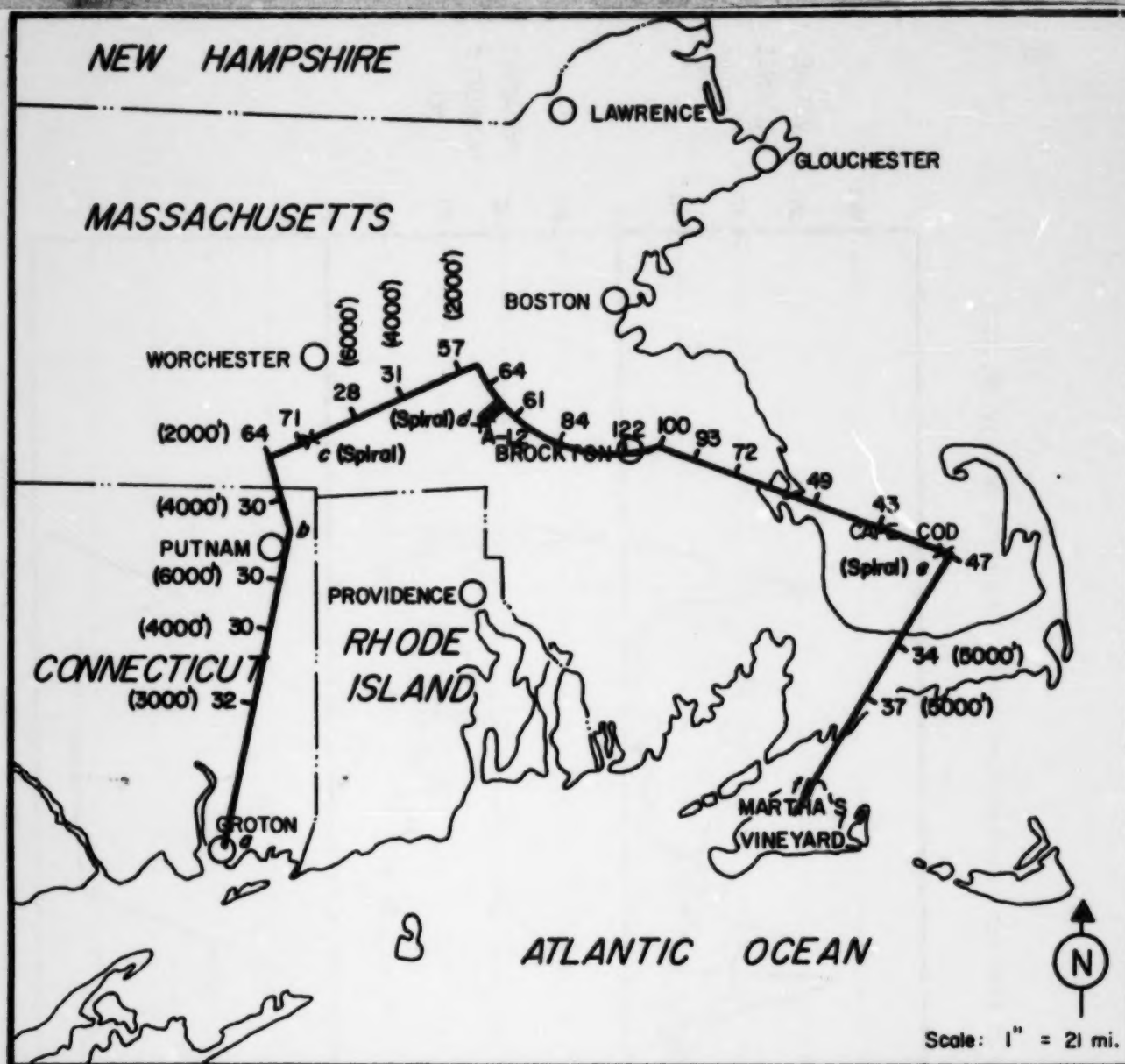


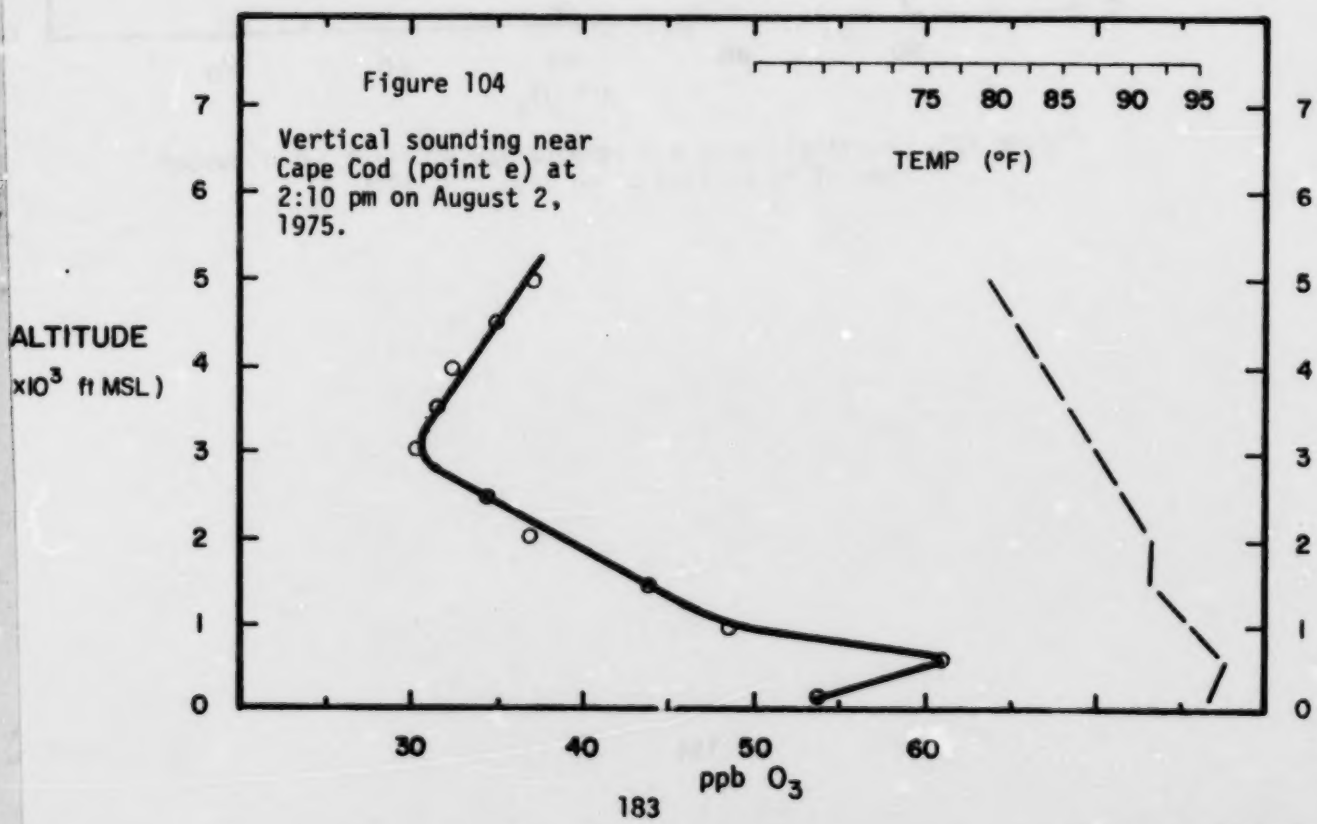
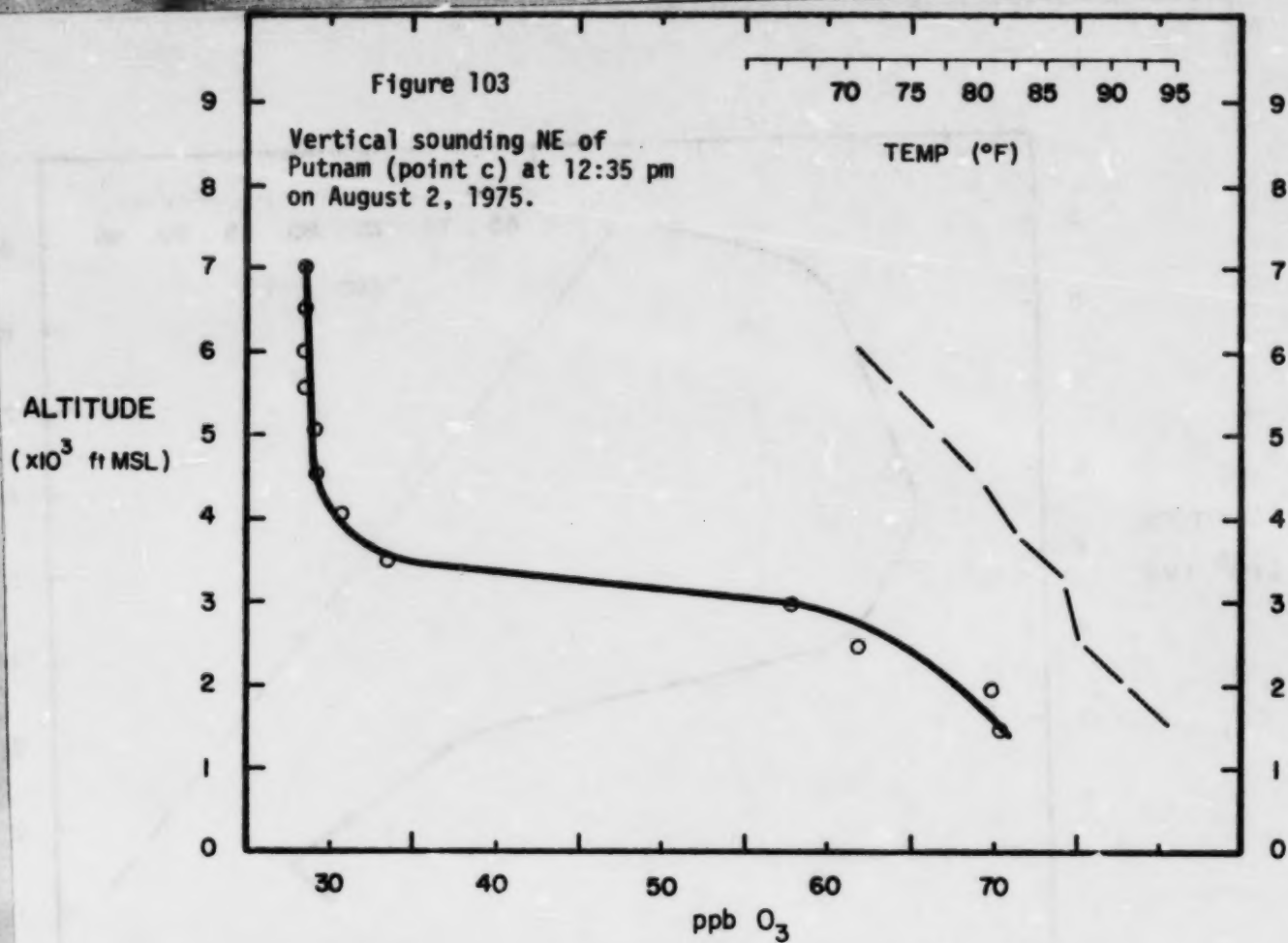
Figure 102. Flight #25 on August 2, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 12:00 to 2:40 PM

Leg ab: 12:00 - 12:17 angle ascent to 5000' MSL
 bc: 12:18 - 12:27 angle descent to 1000'
 c: 12:28 - 12:40 spiral ascent to 7000'
 cd: 12:41 - 12:56 angle descent to 1500'
 d: 12:57 - 1:40 spiral ascent to 9000' and descent to 1500'
 de: 1:41 - 2:05 at ~ 1000'
 e: 2:06 - 2:15 spiral ascent to 5000'
 ef: 2:16 - 2:40 angle descent to landing

WIND: Calm

WEATHER: Hazy and hot



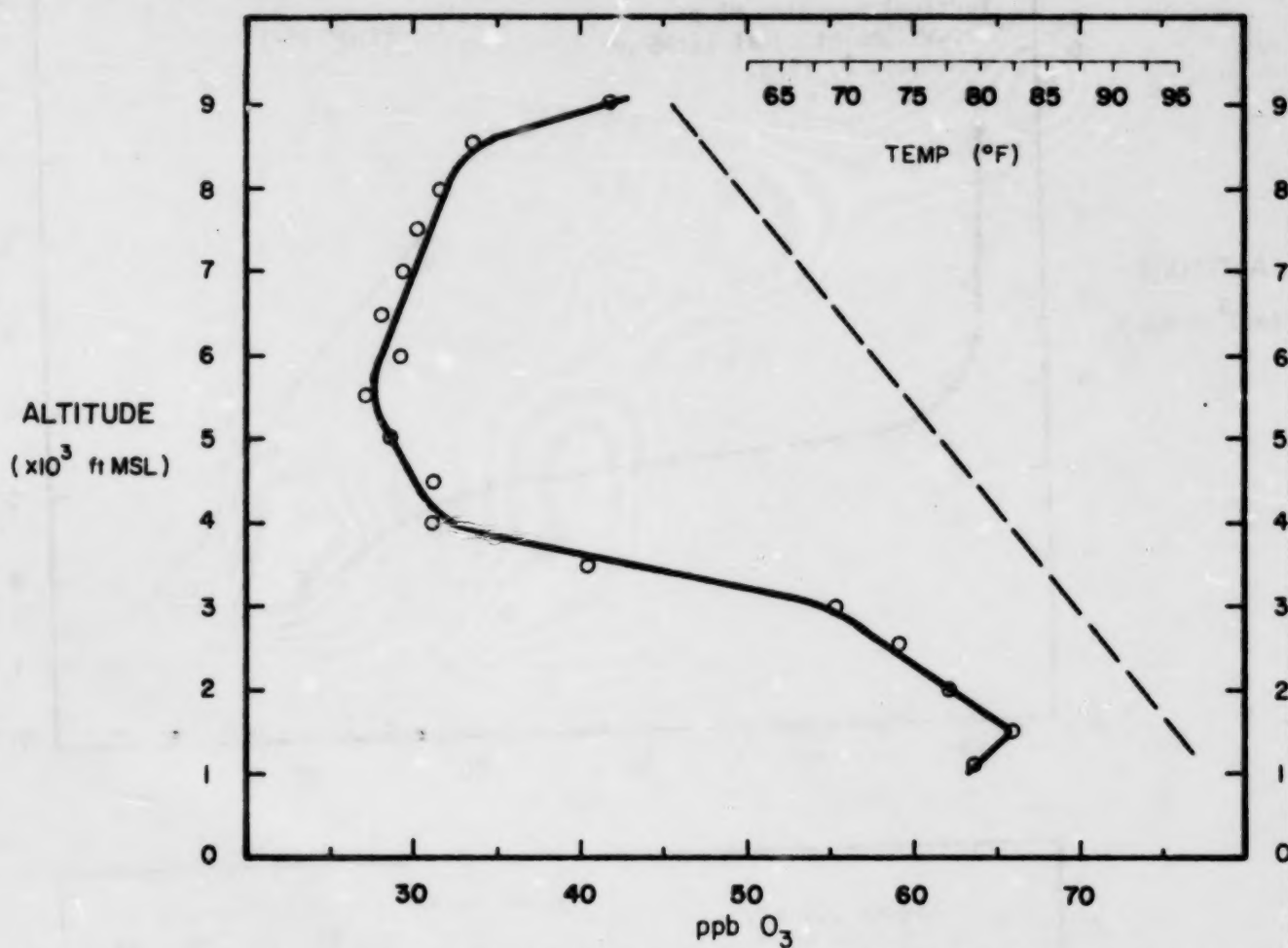
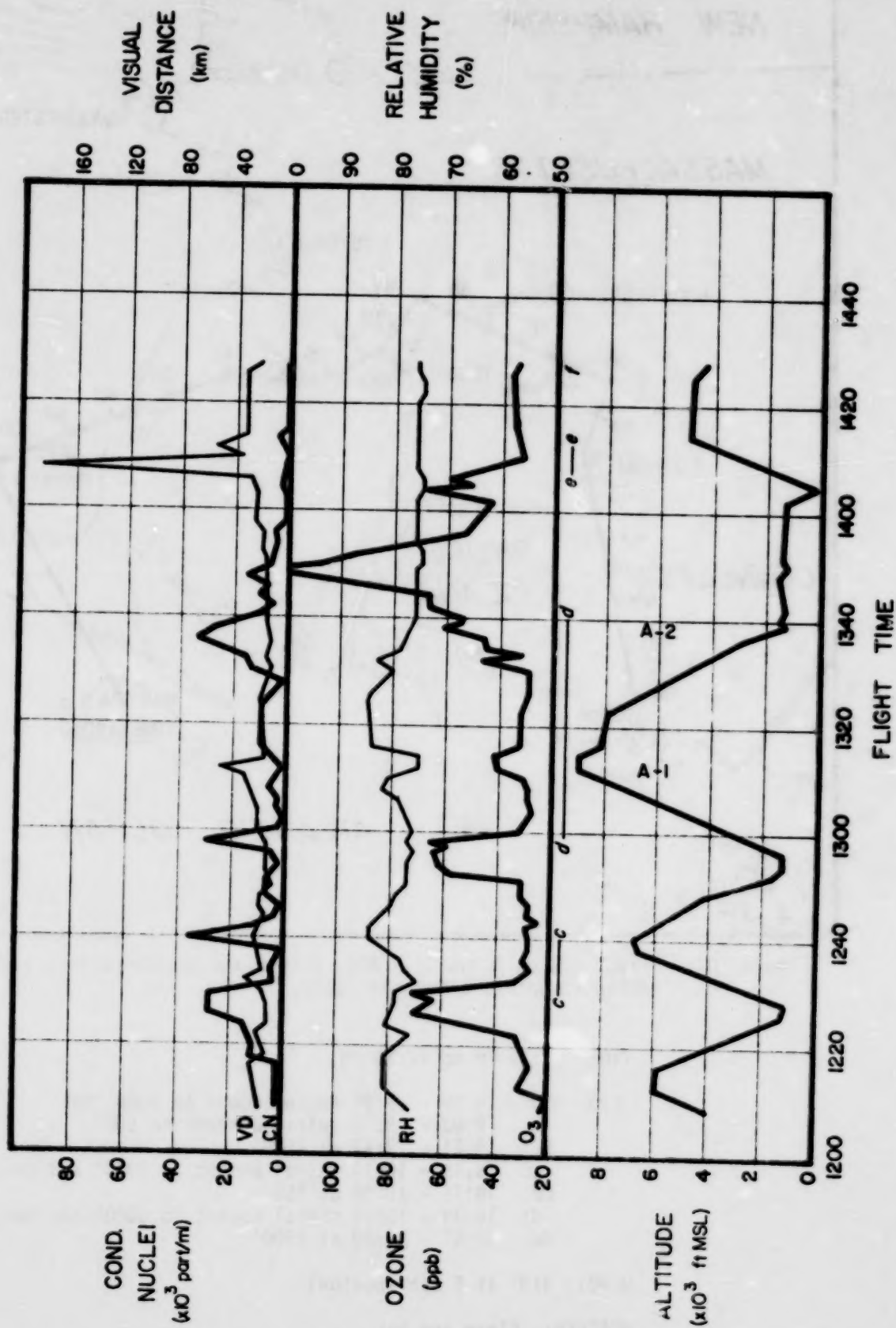


Figure 105. Vertical ozone and temperature profiles SW of Boston (point d) at 1:15 pm on August 2, 1975.

Figure 106. Plot of aircraft data recorded during flight #25 on August 2, 1975.



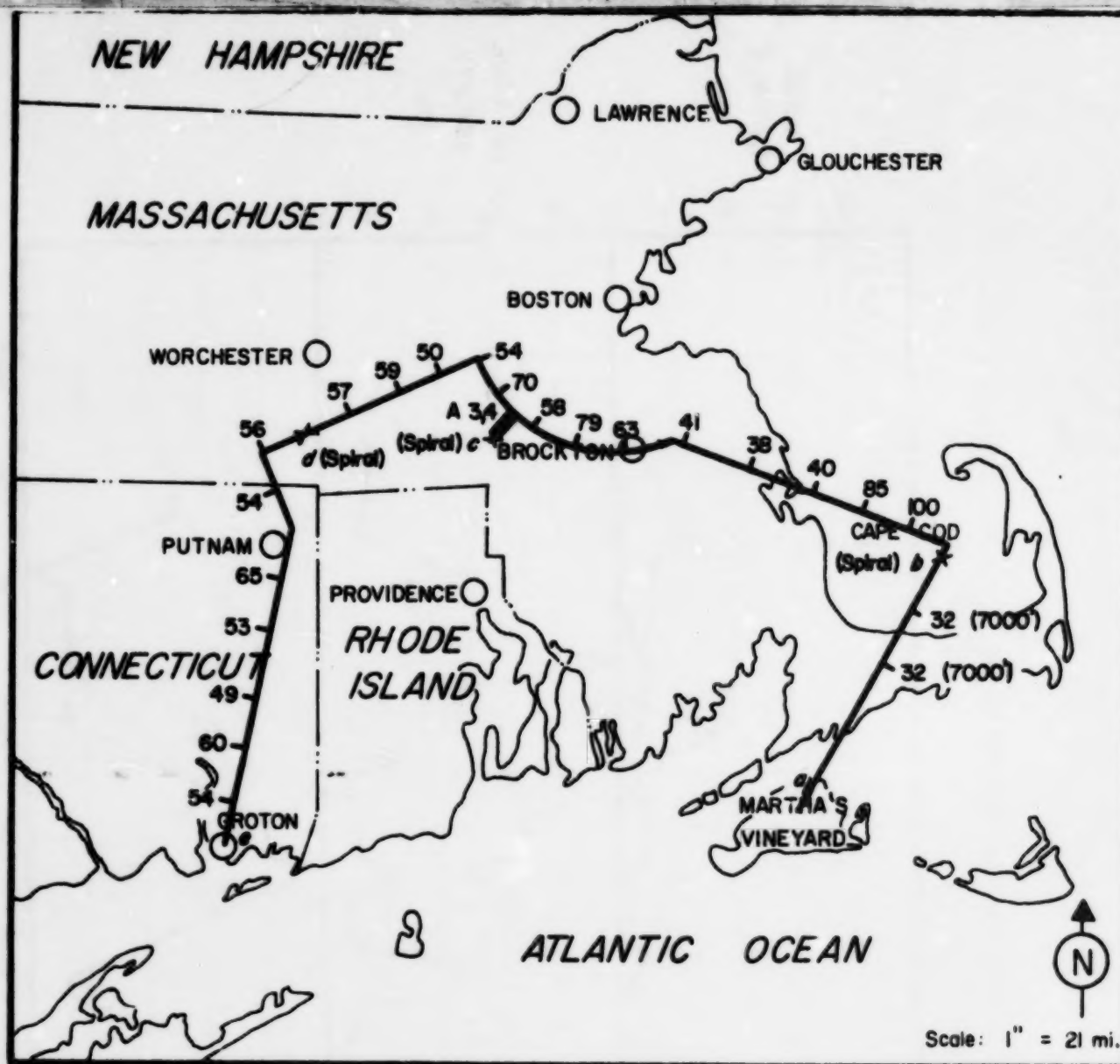


Figure 107. Flight #26 on August 2, 1975, with ozone concentrations (ppb) marked at points along the route.

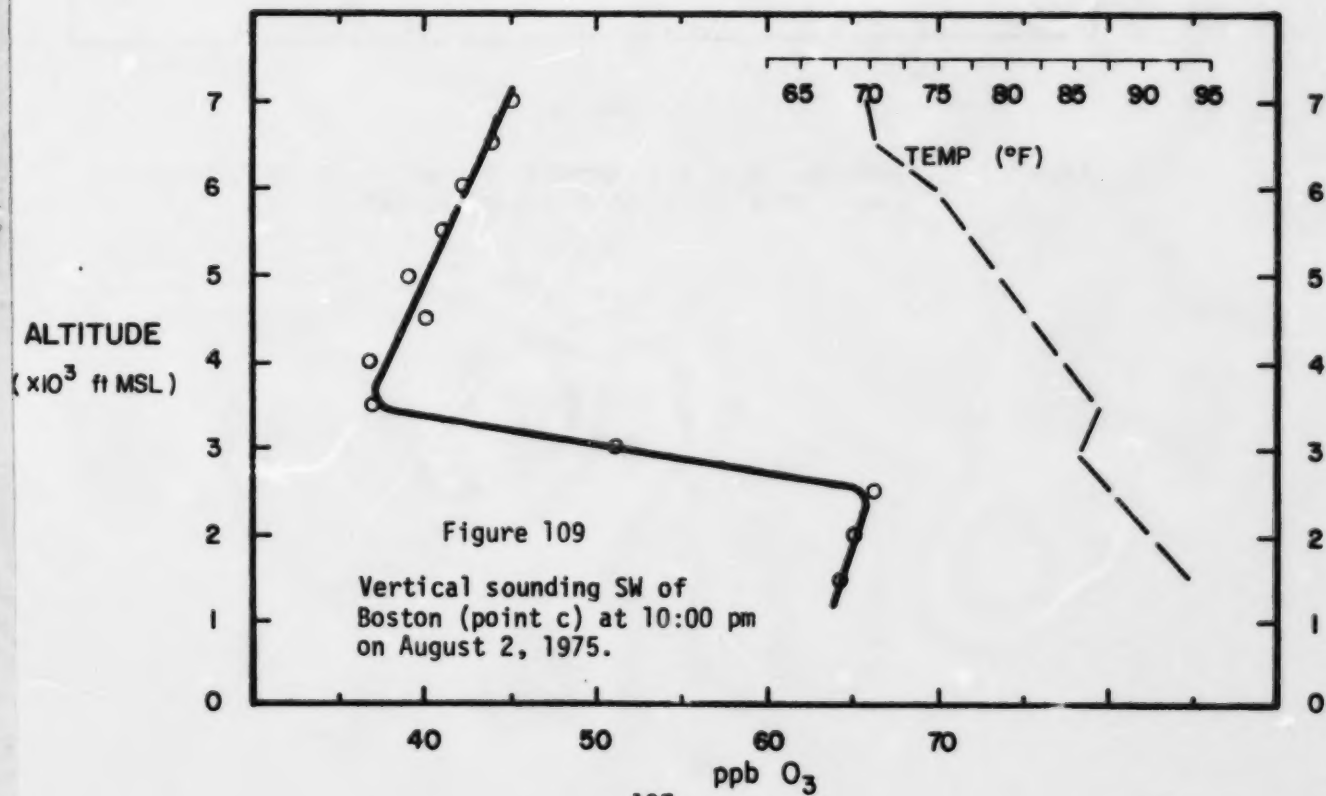
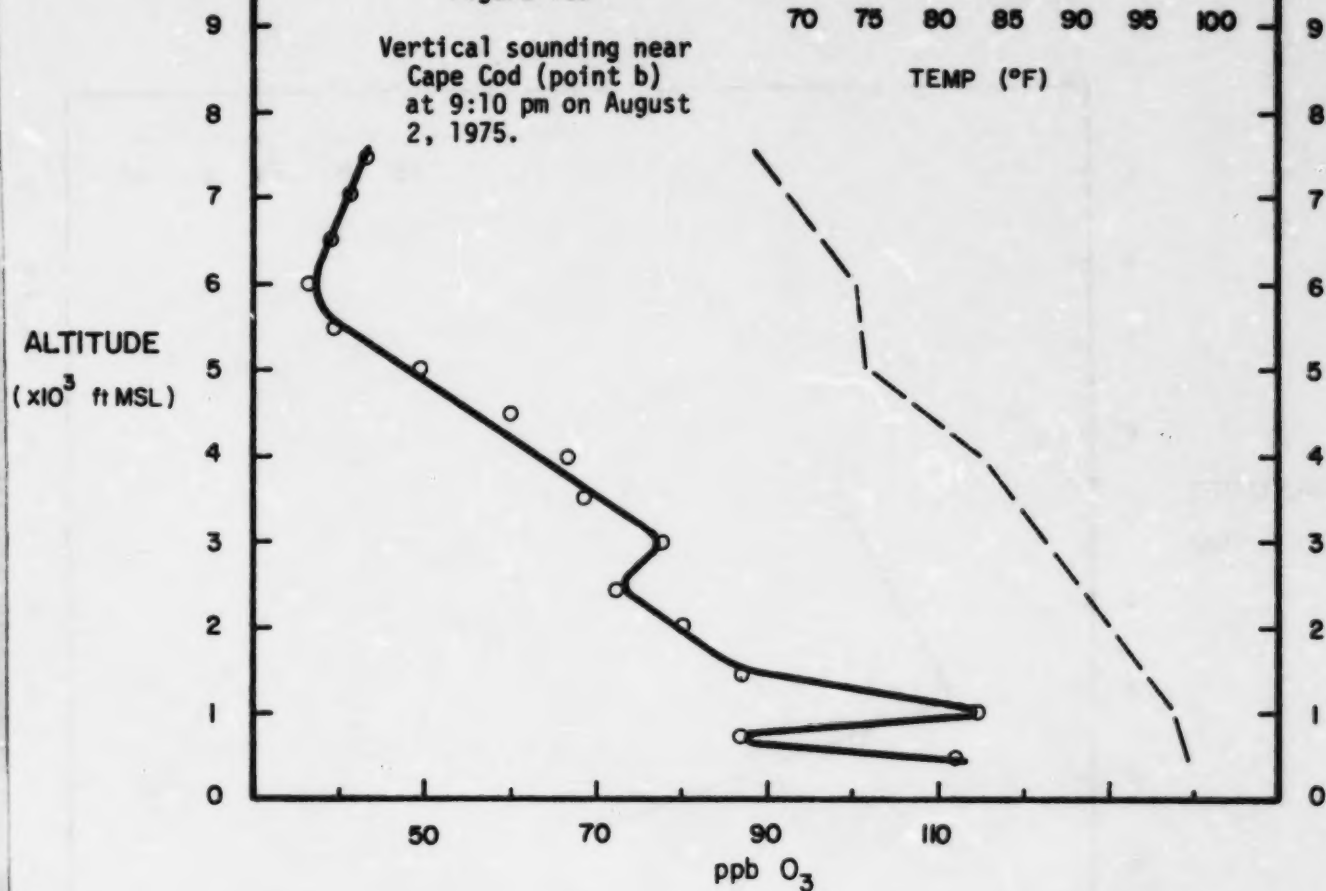
TIME: 8:35 PM to 11:20 PM

Leg ab: 8:35 - 9:02 angle ascent to 7000' MSL
 b: 9:03 - 9:20 spiral descent to 500'
 bc: 9:21 - 9:47 at 1500'
 c: 9:48 - 10:14 spiral ascent to 6000' and descent to 1500'
 cd: 10:15 - 10:38 at 1500'
 d: 10:39 - 10:56 spiral ascent to 5000' and descent to 1500'
 de: 10:57 - 11:20 at 1500'

WIND: 310° at 5 mph (Boston)

WEATHER: Clear and hot

Figure 108



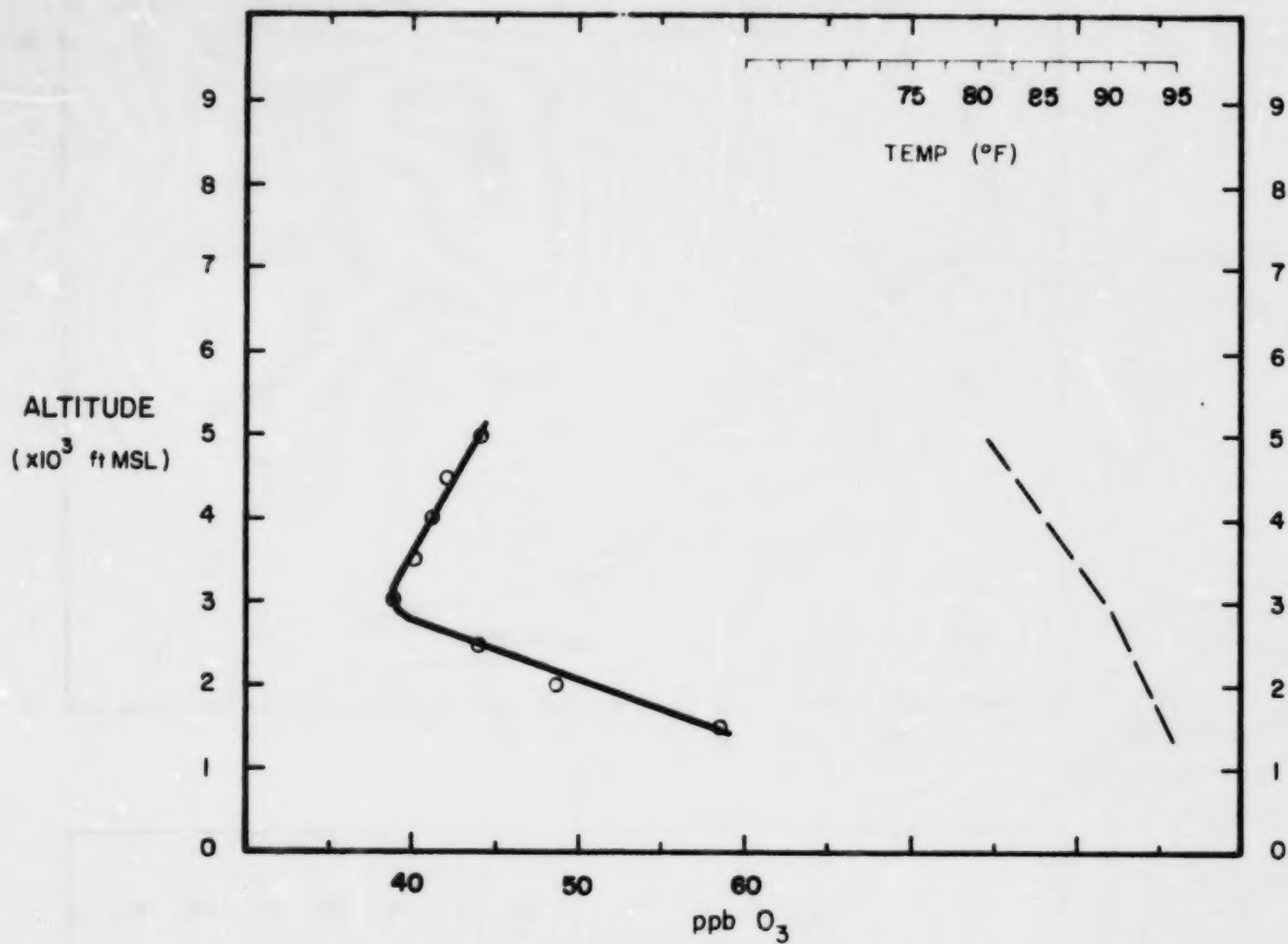
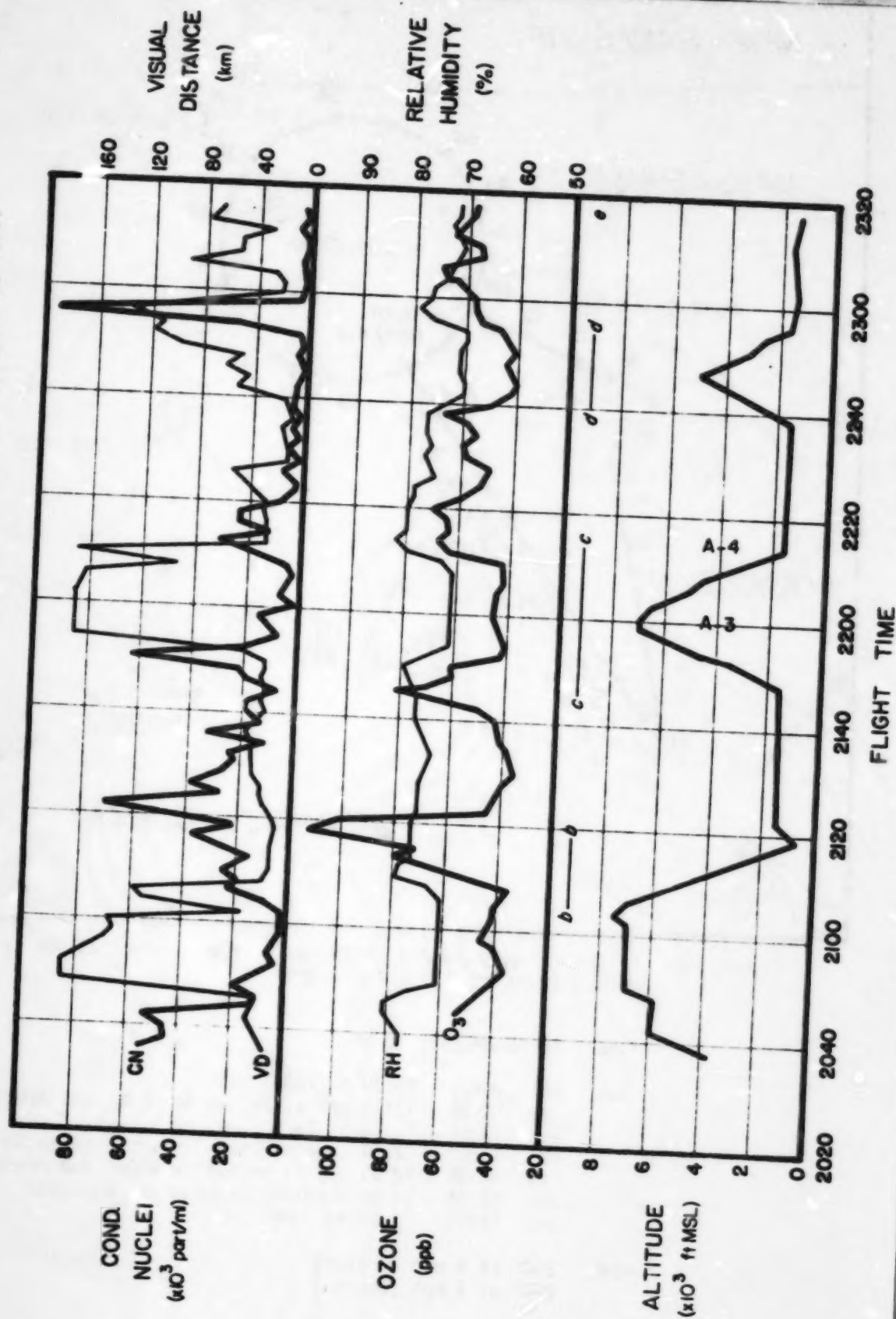


Figure 110. Vertical ozone and temperature profiles NE of Putnam (point d) at 10:45 pm on August 2, 1975.

Figure 111. Plot of aircraft data recorded during flight #26 on August 2, 1975.



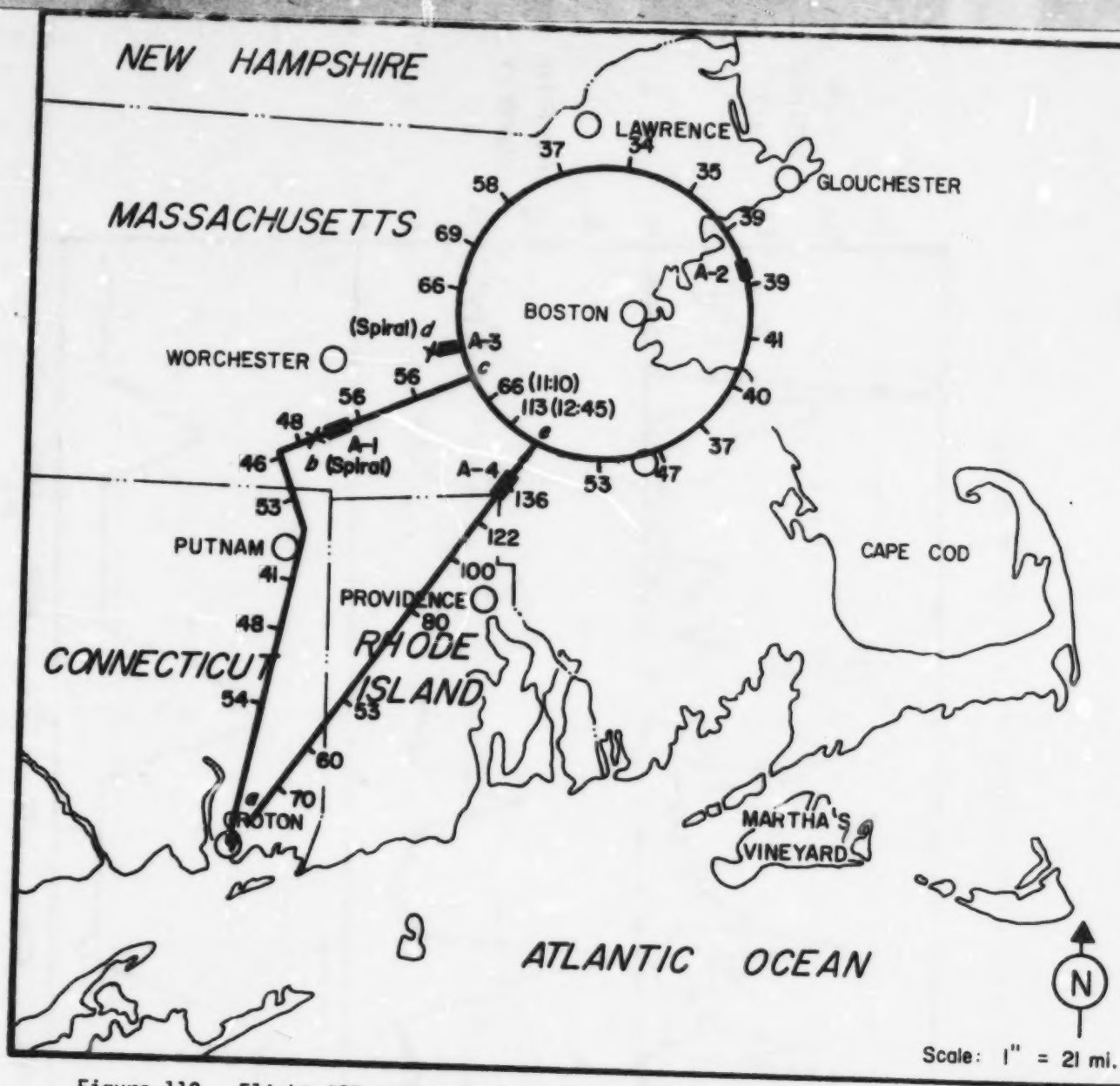


Figure 112. Flight #27 on August 3, 1975, with ozone concentrations (ppb) marked at points along the route.

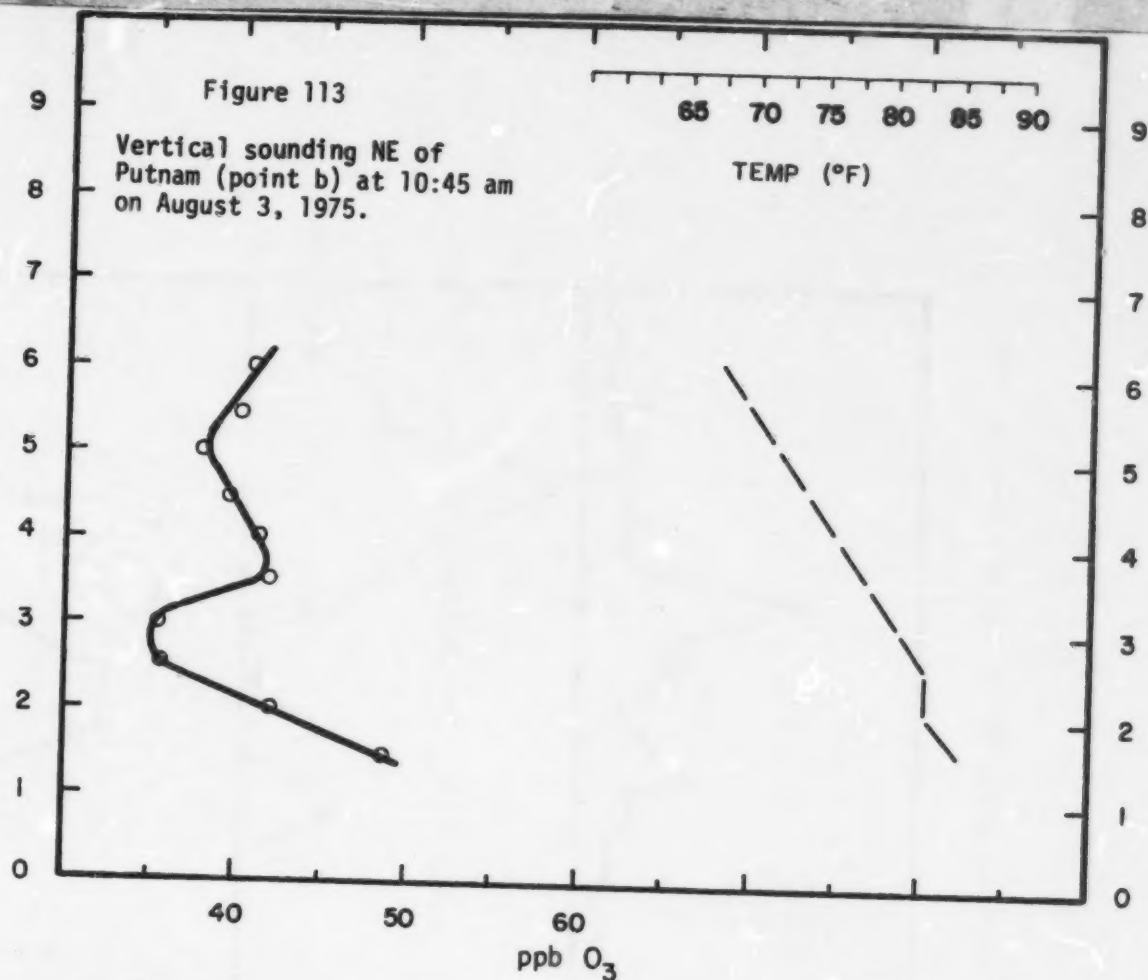
TIME: 10:05 AM to 1:20 PM

Leg ab: 10:05 - 10:33 at 1500' MSL
 b: 10:34 - 10:56 spiral ascent to 6000' and descent to 1000'
 bc: 10:57 - 11:06 at 1500'
 cd: 11:07 - 12:04 counterclockwise arc between 500' and 1500'
 d: 12:05 - 12:33 spiral ascent to 6000' and descent to 1500'
 de: 12:34 - 12:44 counterclockwise arc at 1500'
 ea: 12:45 - 1:20 at 1500'

WIND: 200° at 4 mph (Groton)
 080° at 7 mph (Boston)

WEATHER: Hazy and hot

ALTITUDE
($\times 10^3$ ft MSL)



ALTITUDE
($\times 10^3$ ft MSL)

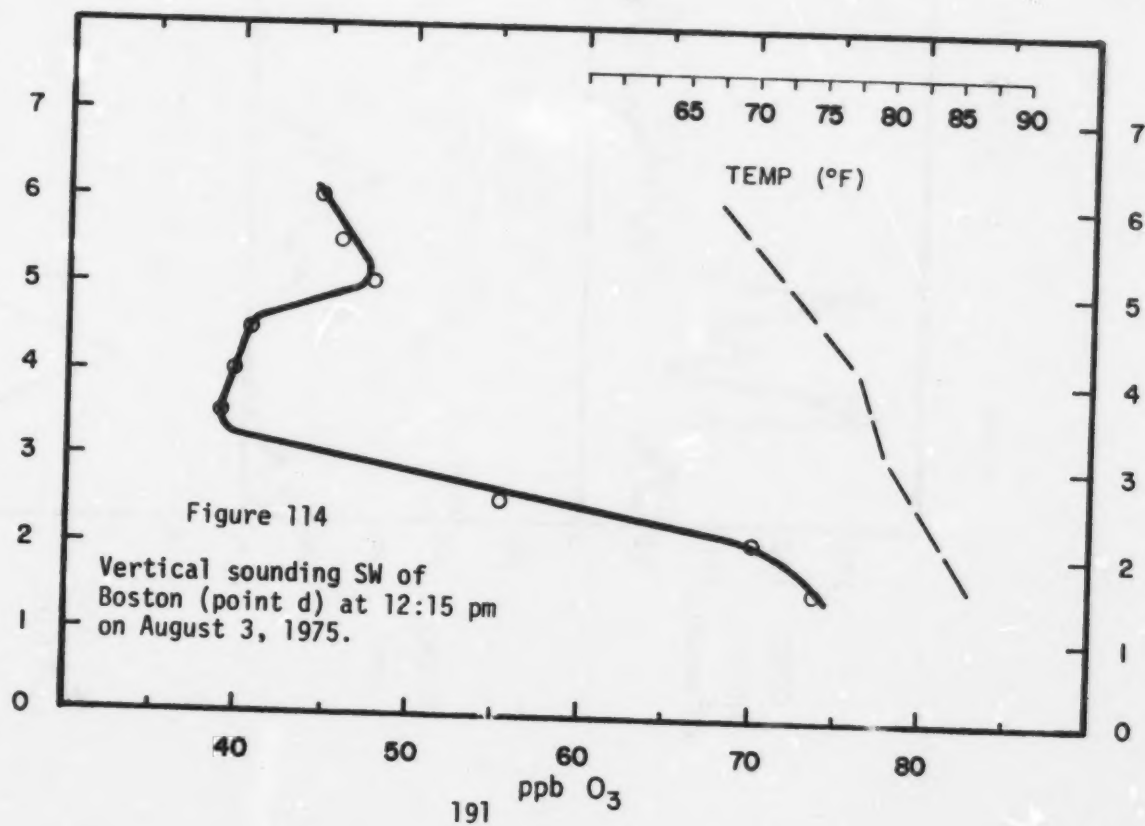
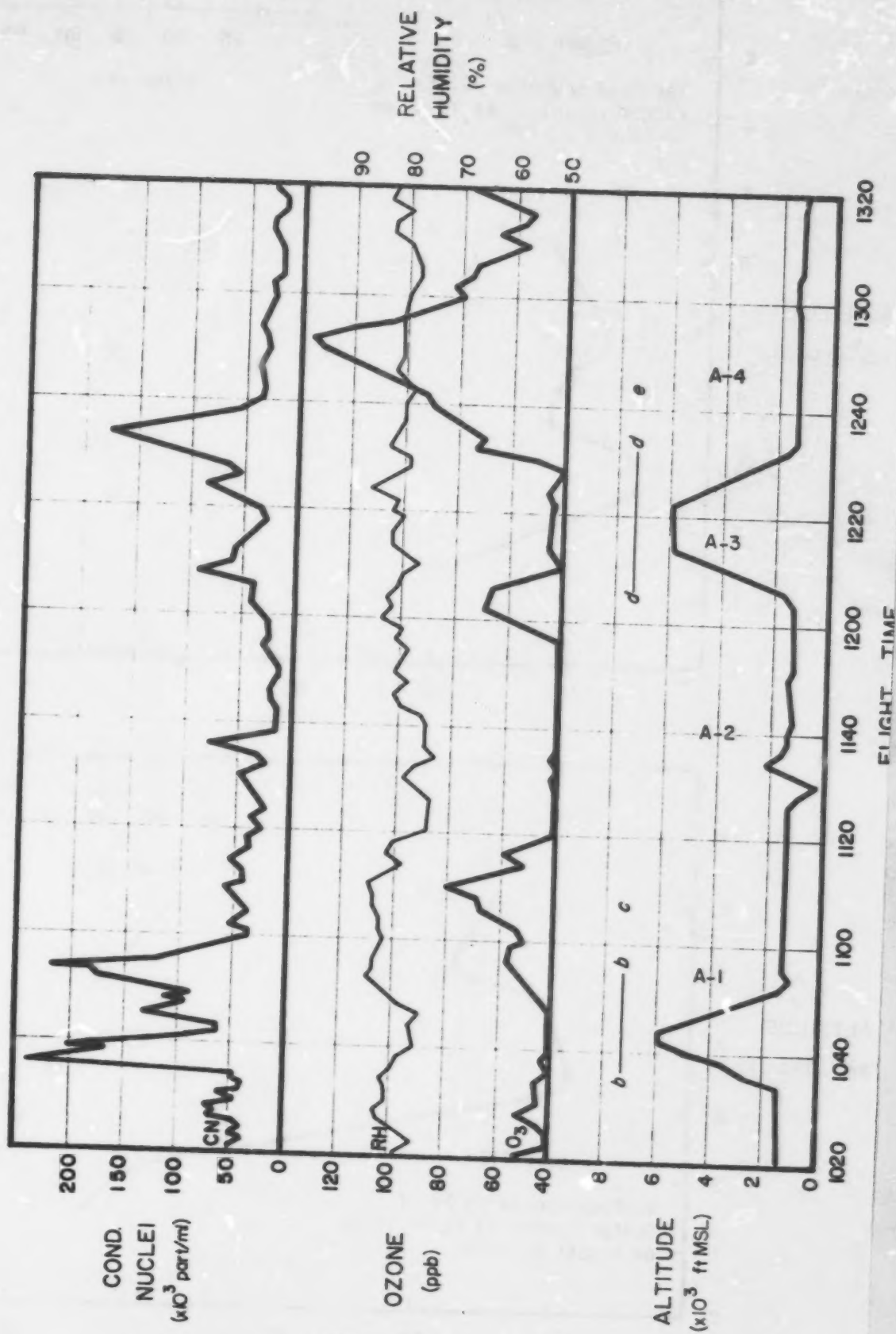


Figure 115. Plot of aircraft data recorded during flight #27 on August 3, 1975.



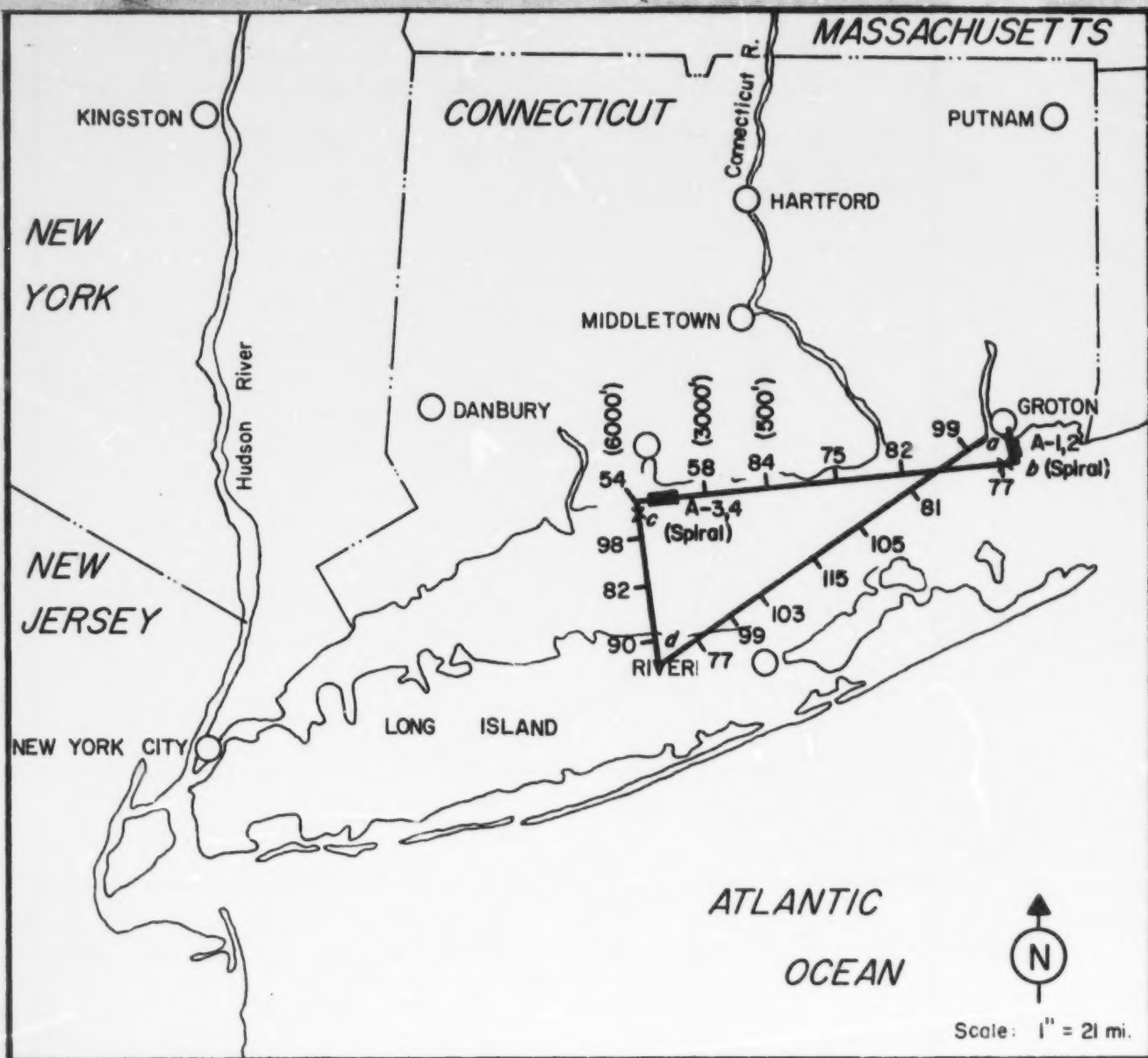


Figure 116. Flight #28 on August 5, 1975, with ozone concentrations (pph) marked at points along the route.

TIME: 12:50 PM to 2:55 PM

Leg ab: 12:50 - 1:10 angle ascent to 6000' MSL
 b: 1:11 - 1:25 spiral descent to 500'
 bc: 1:26 - 1:59 between 500' and 6000'
 c: 2:00 - 2:14 spiral descent to 500'
 cd: 2:15 - 2:27 at 1000'
 da: 2:28 - 2:55 at 1000'

WIND: 230° at 10 mph (Groton)

WEATHER: Partly cloudy and warm

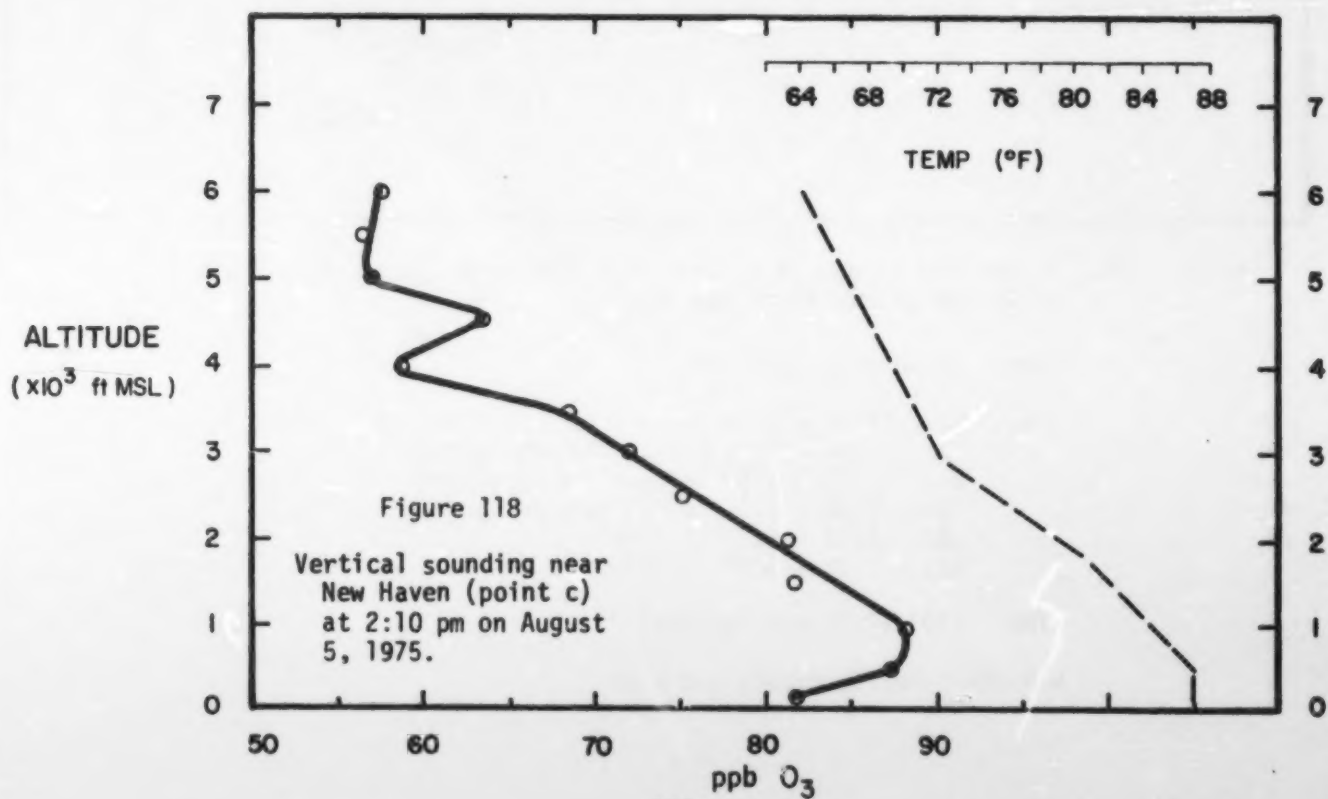
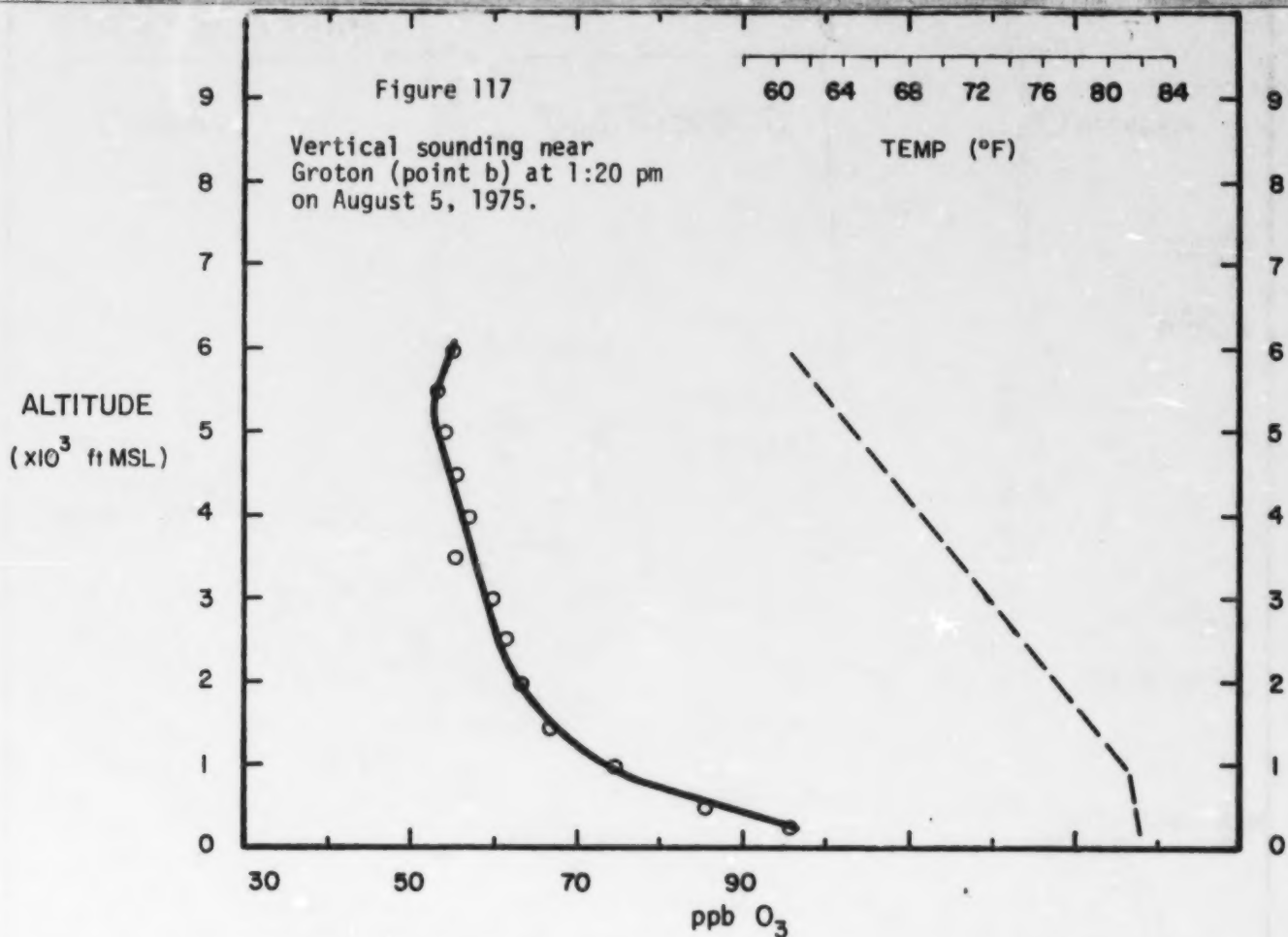
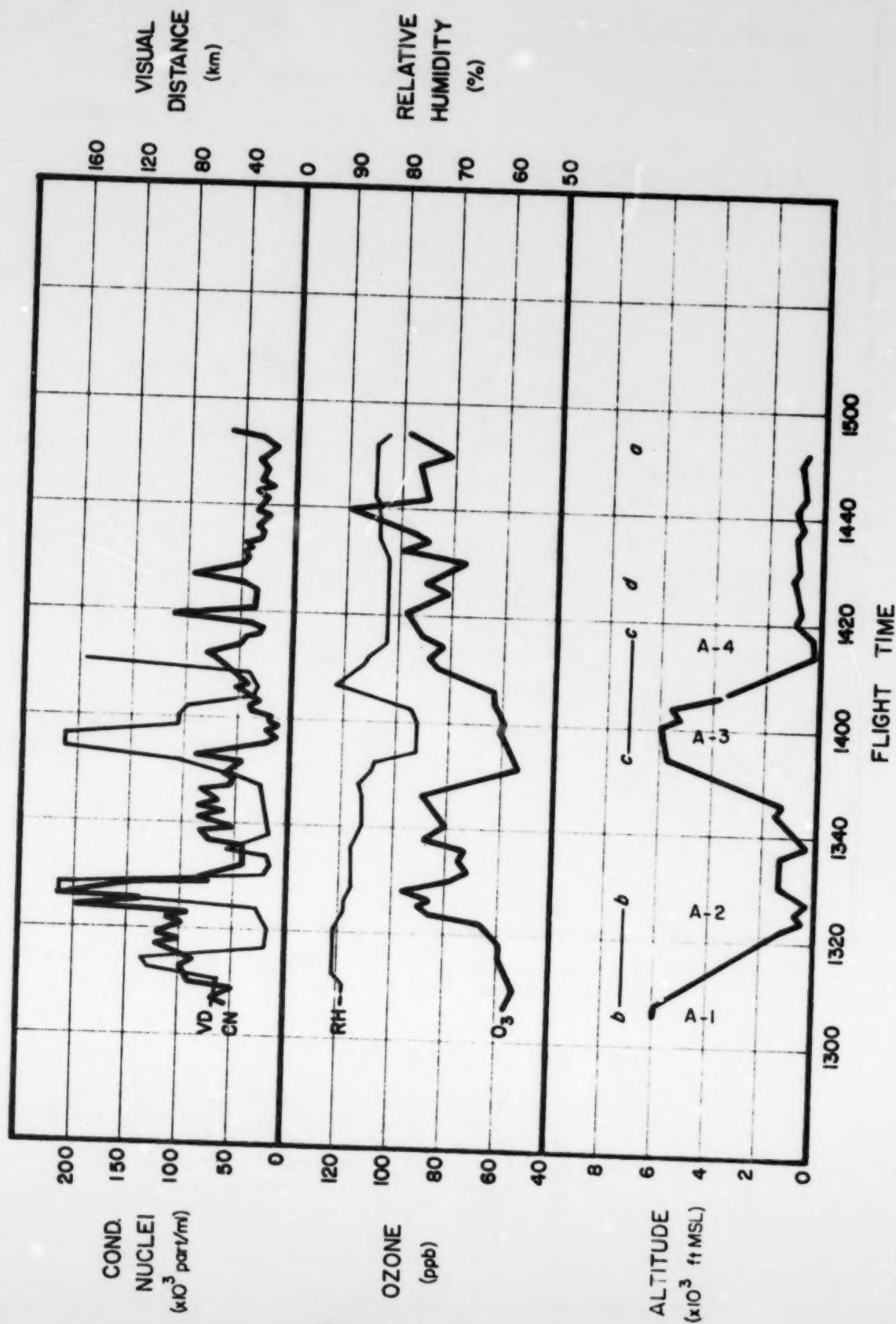


Figure 119. Plot of aircraft data recorded during flight #28 on August 5, 1975.



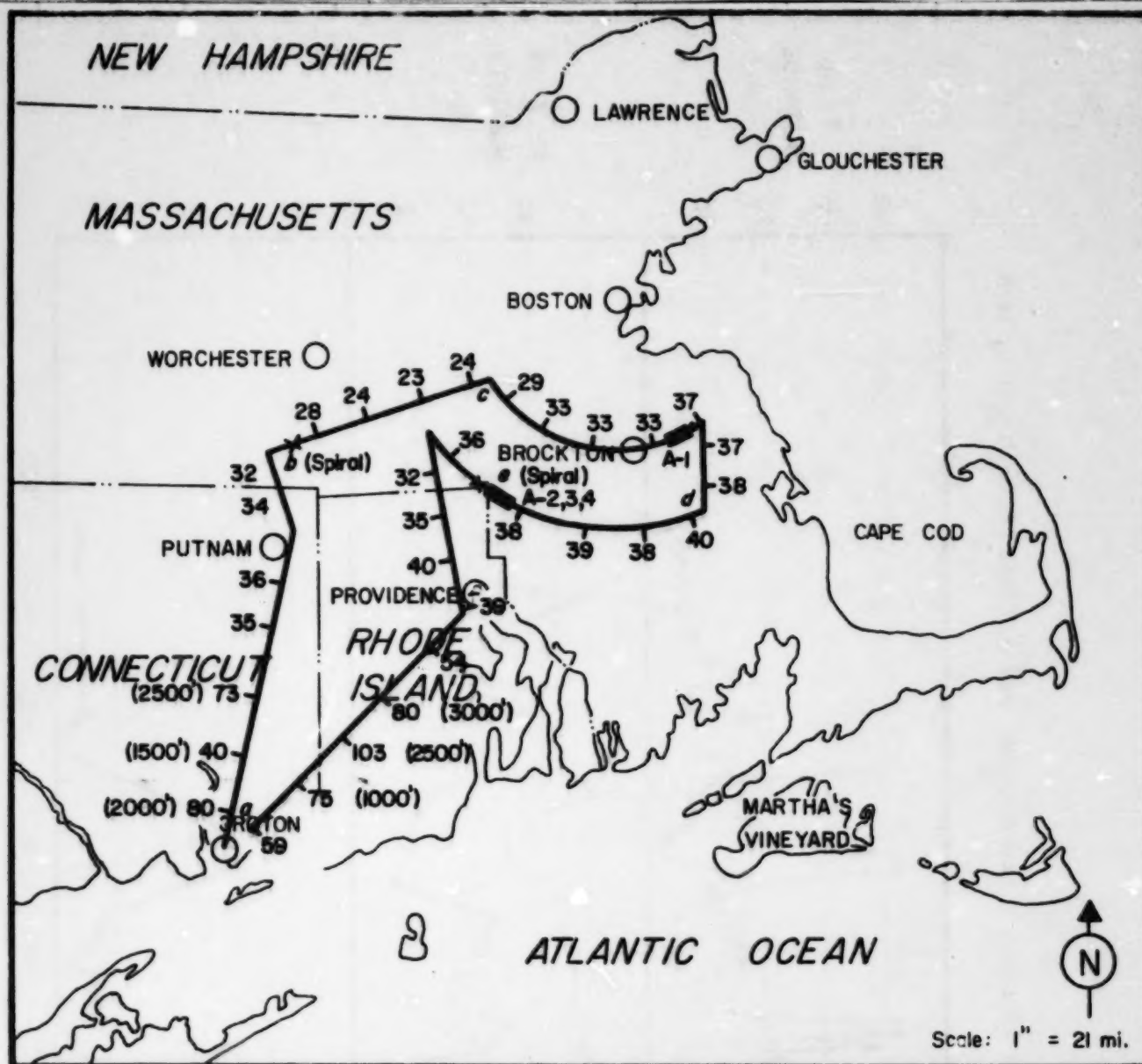


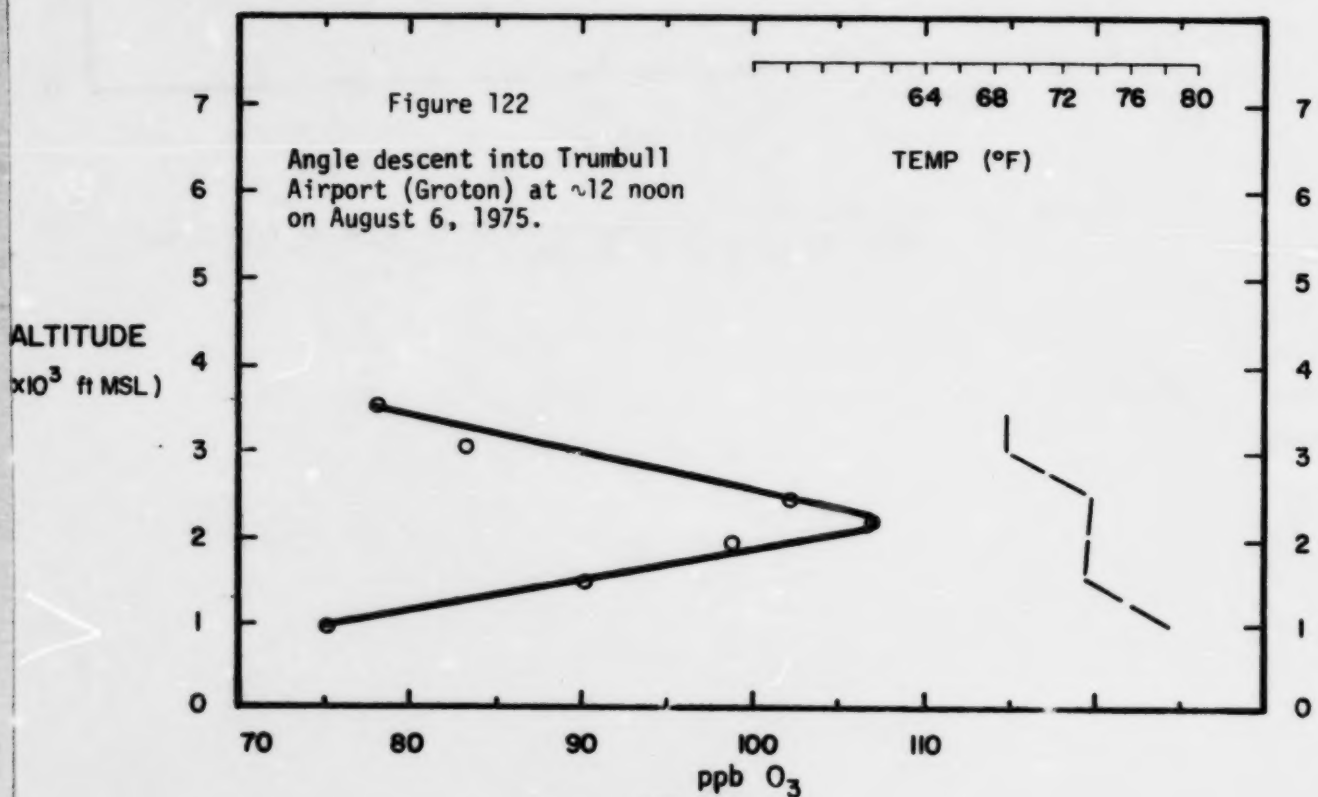
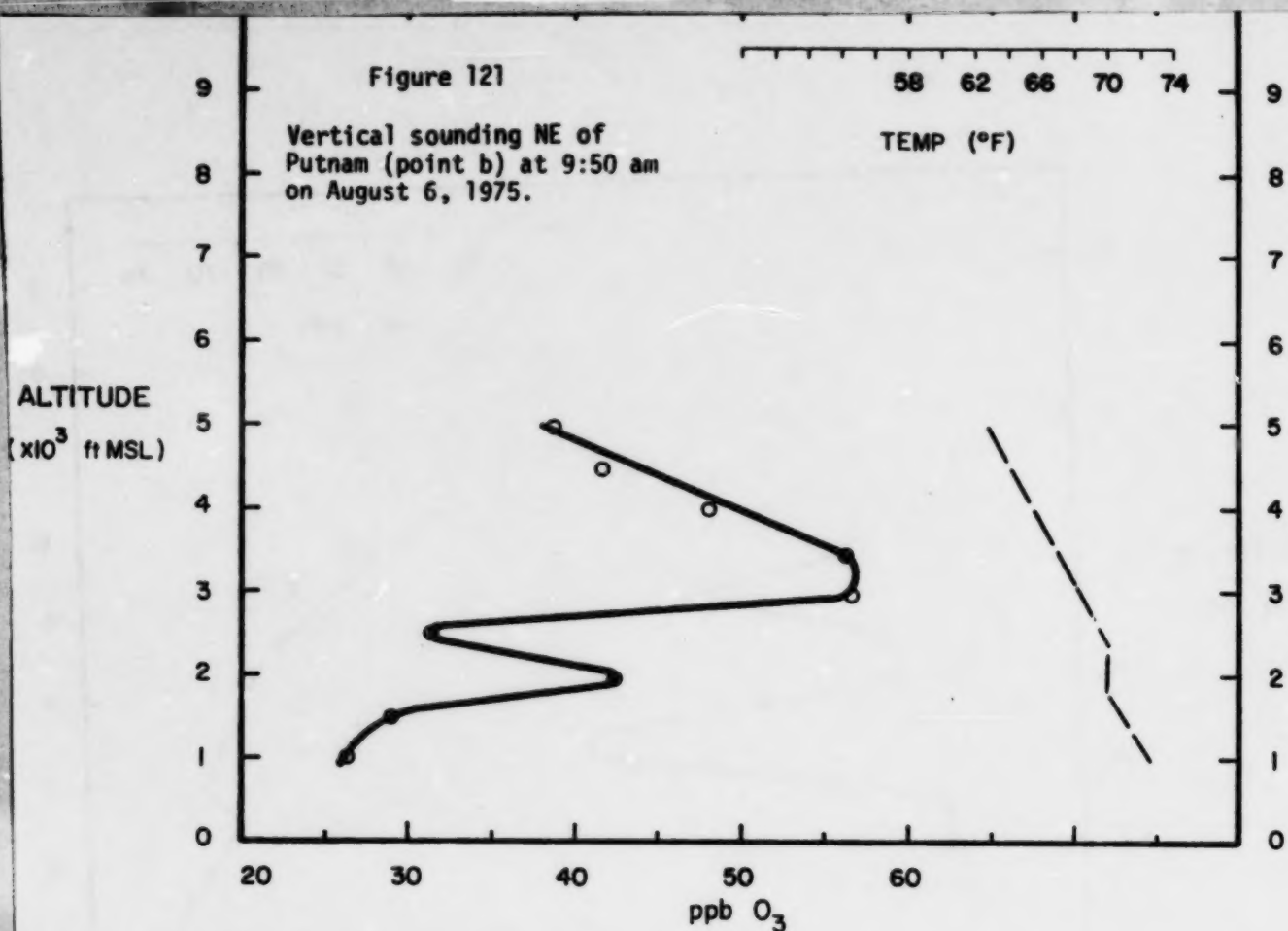
Figure 120. Flight #29 on August 6, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 9:05 AM to 12:05 PM

Leg ab: 9:05 - 9:42 between 1500' and 2500' MSL
 b: 9:43 - 10:00 spiral ascent to 5000' and descent to 1500'
 bc: 10:01 - 10:12 at 1500'
 cd: 10:13 - 10:29 at 1500'
 de: 10:30 - 10:43 at 1500'
 e: 10:44 - 11:17 spiral ascent to 6000' and descent to 1500'
 ef: 11:18 - 11:42 at 1500'
 fa: 11:43 - 12:05 between 1500' and 3000'

WIND: 040° at 15 mph (Groton)
 050° at 8 mph (Boston)

WEATHER: Partly cloudy and warm



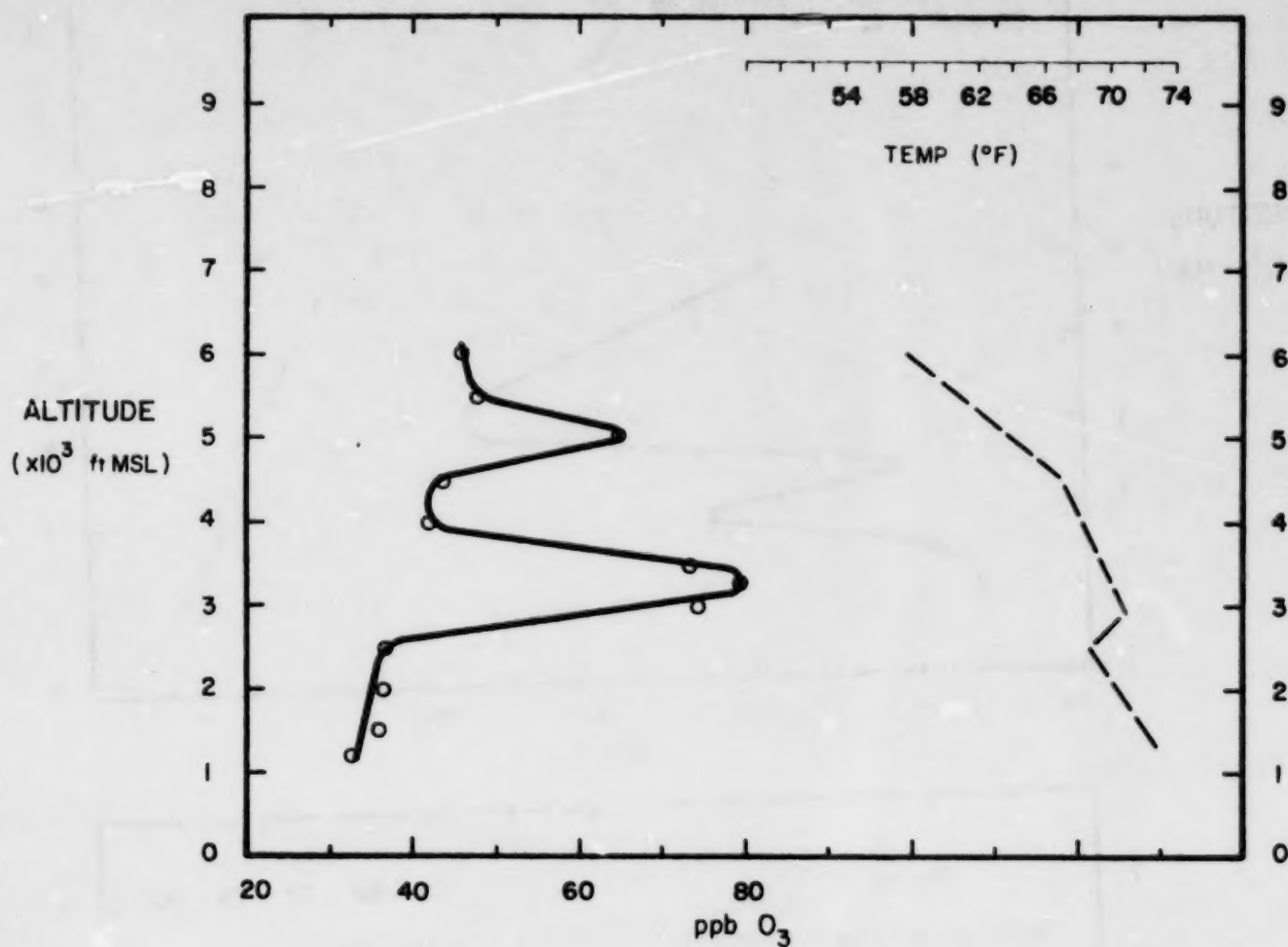
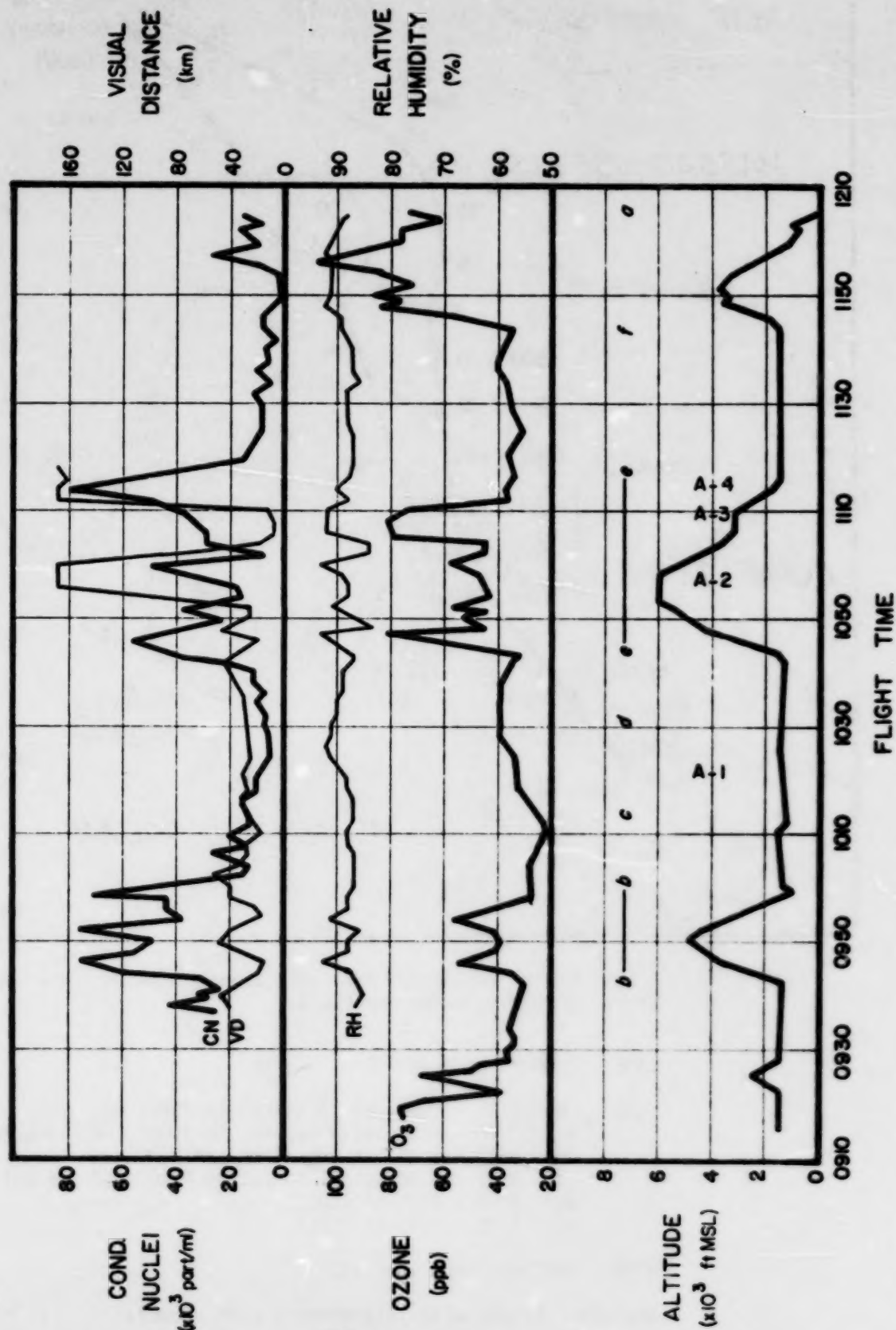


Figure 123. Vertical ozone and temperature profiles NE of Providence (point e) at 11:00 am on August 6, 1975.

Figure 124. Plot of aircraft data recorded during flight #29 on August 6, 1975.



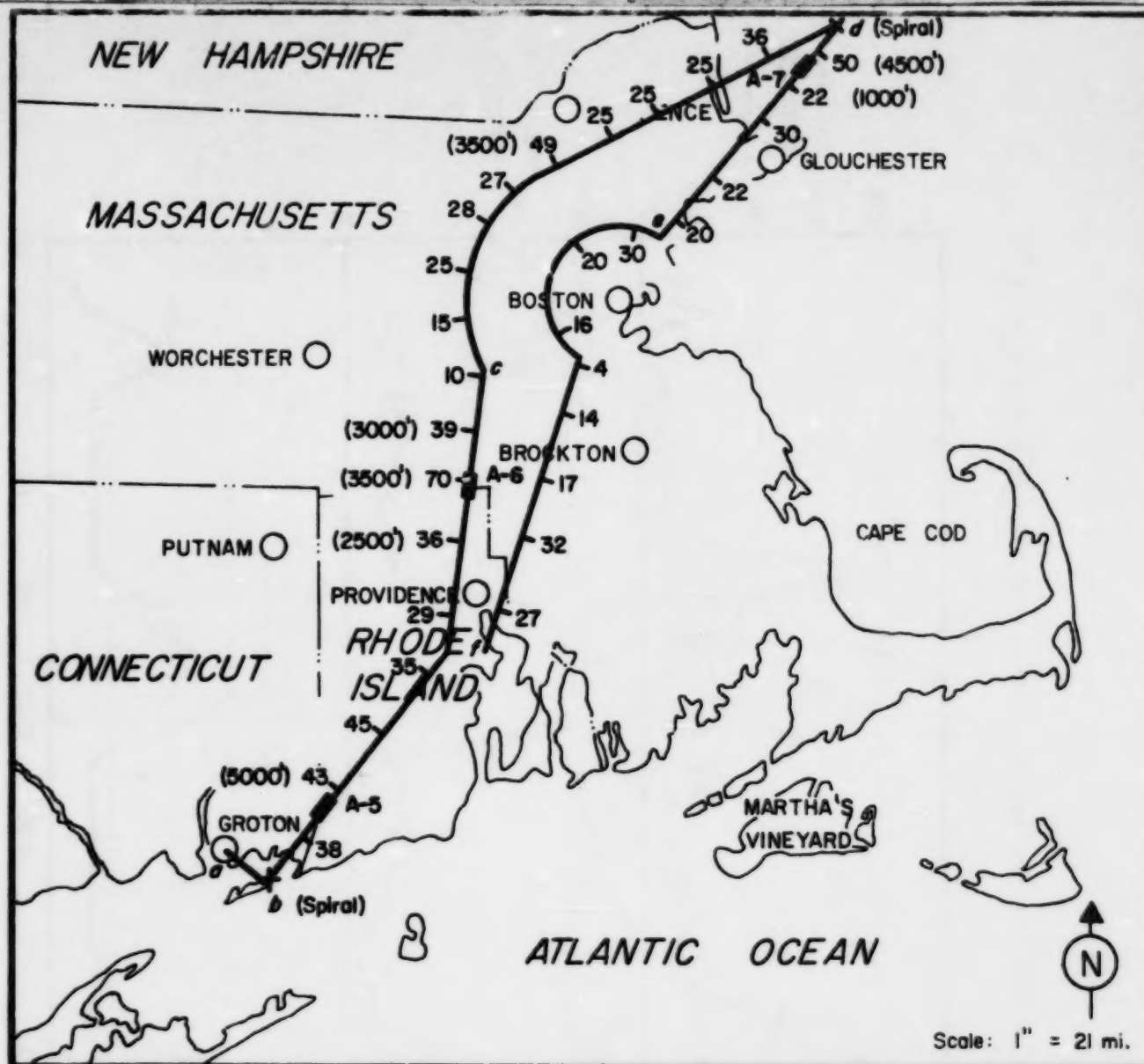


Figure 125. Flight #30 on August 6, 1975, with ozone concentrations (pph) marked at points along the route.

TIME: 2:00 PM to 4:45 PM

Leg b: 2:05 - 2:19 spiral ascent to 7500' MSL
 bc: 2:20 - 2:58 angle descent to 1500' and climb to 3500'
 cd: 2:59 - 3:32 between 1500' and 3500'
 d: 3:33 - 3:56 spiral ascent to 6500' and descent to 1000'
 de: 3:57 - 4:05 at 1500'
 ef: 4:06 - 4:45 at 1500'

WIND: 090° at 7 mph (Boston)

WEATHER: Cloudy with intermittent rain showers

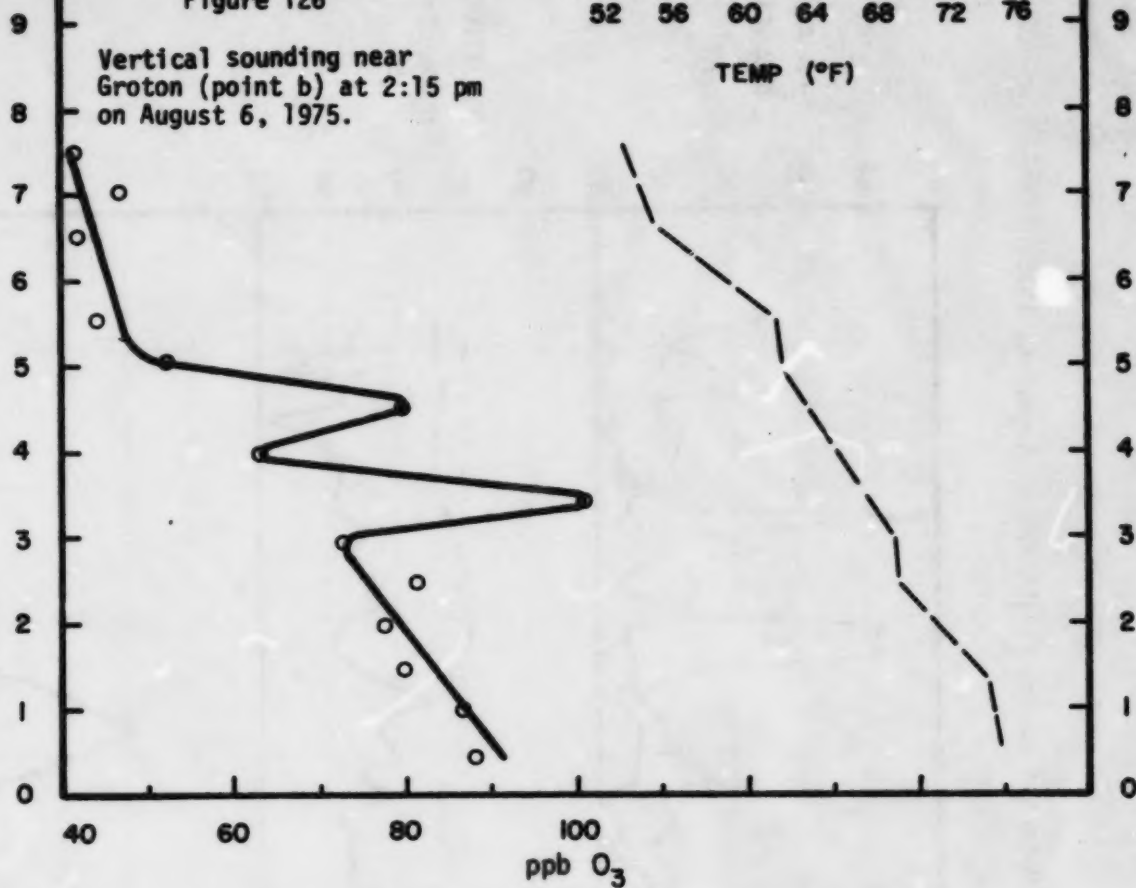
ALTITUDE
x10³ ft MSL)

Figure 126

Vertical sounding near
Groton (point b) at 2:15 pm
on August 6, 1975.

52 56 60 64 68 72 76

TEMP (°F)



ALTITUDE
x10³ ft MSL)

Figure 127

Vertical sounding NE of
Boston (point d) at 3:45 pm
on August 6, 1975.

52 56 60 64 68 72

TEMP (°F)

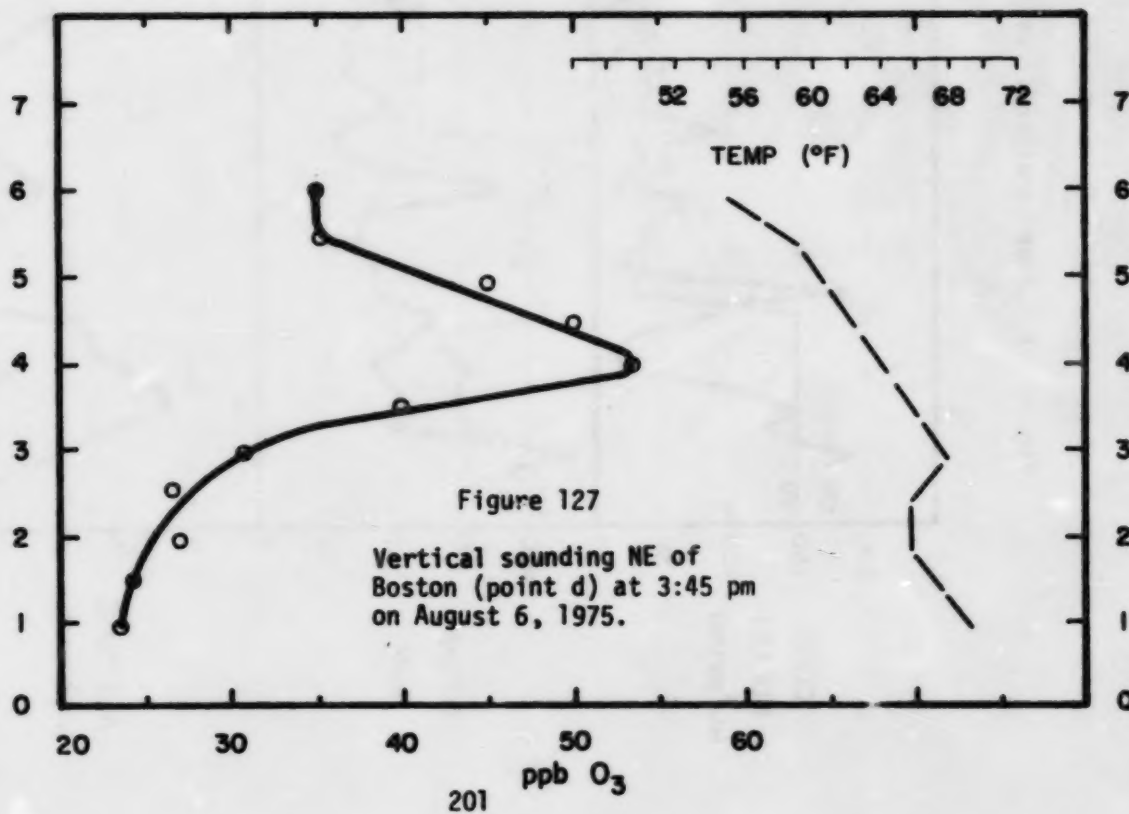


Figure 128. Plot of aircraft data recorded during flight #30 on August 6, 1975.

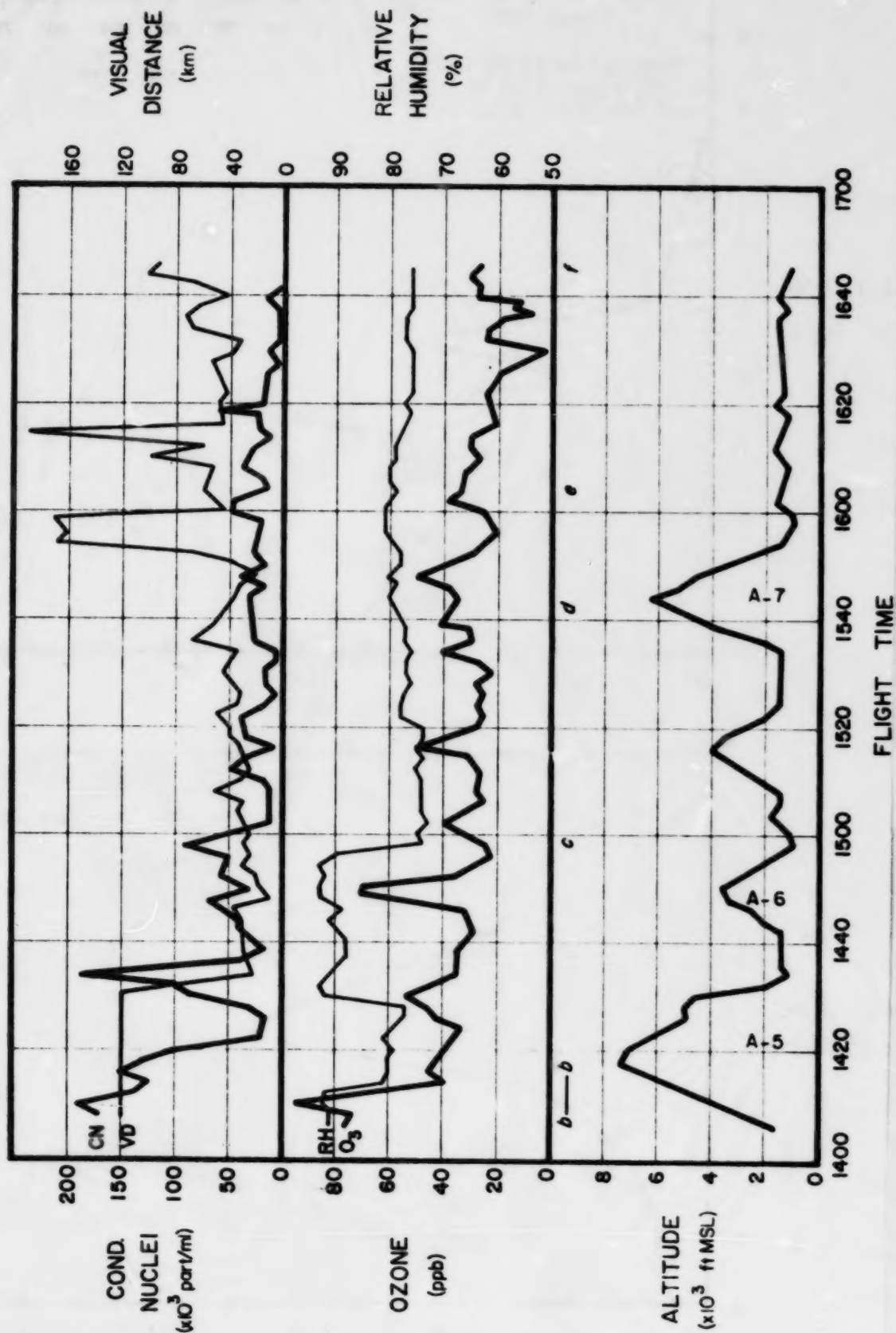




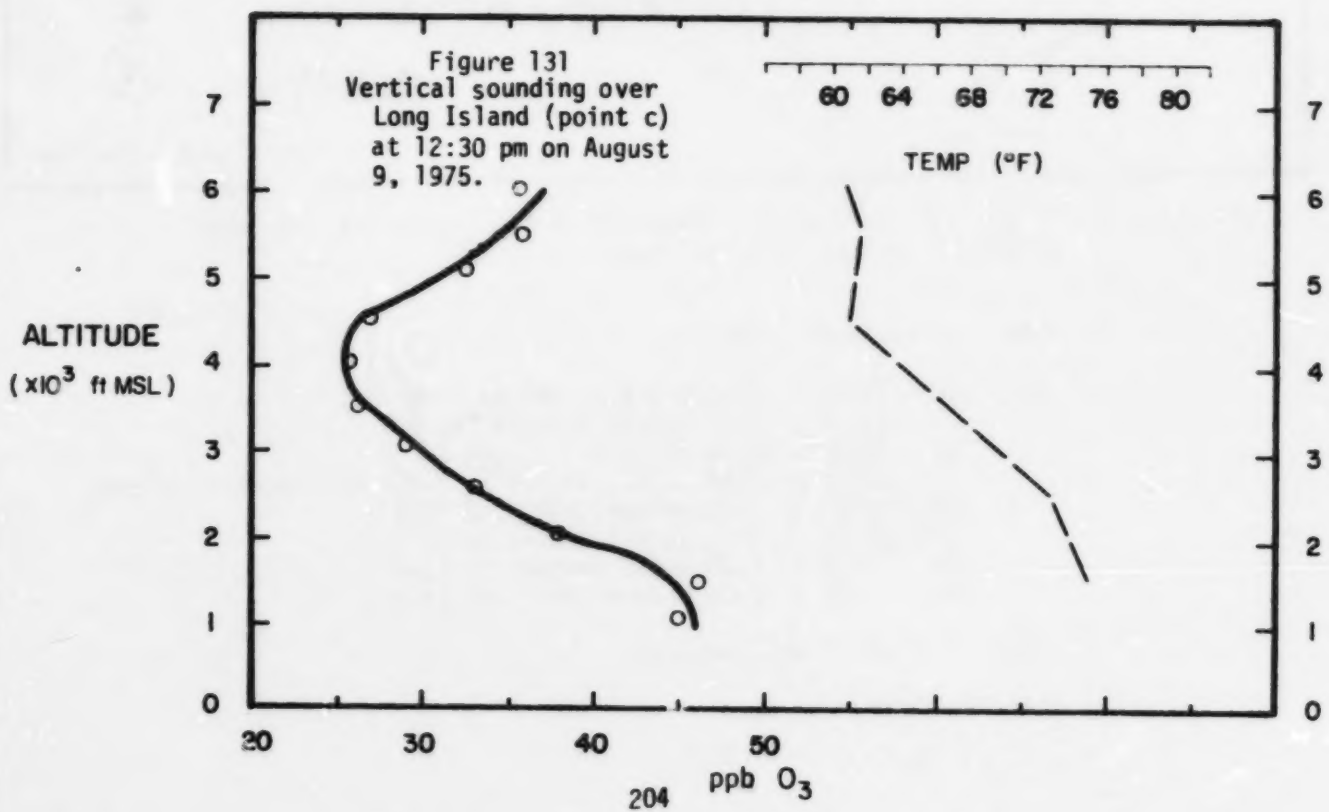
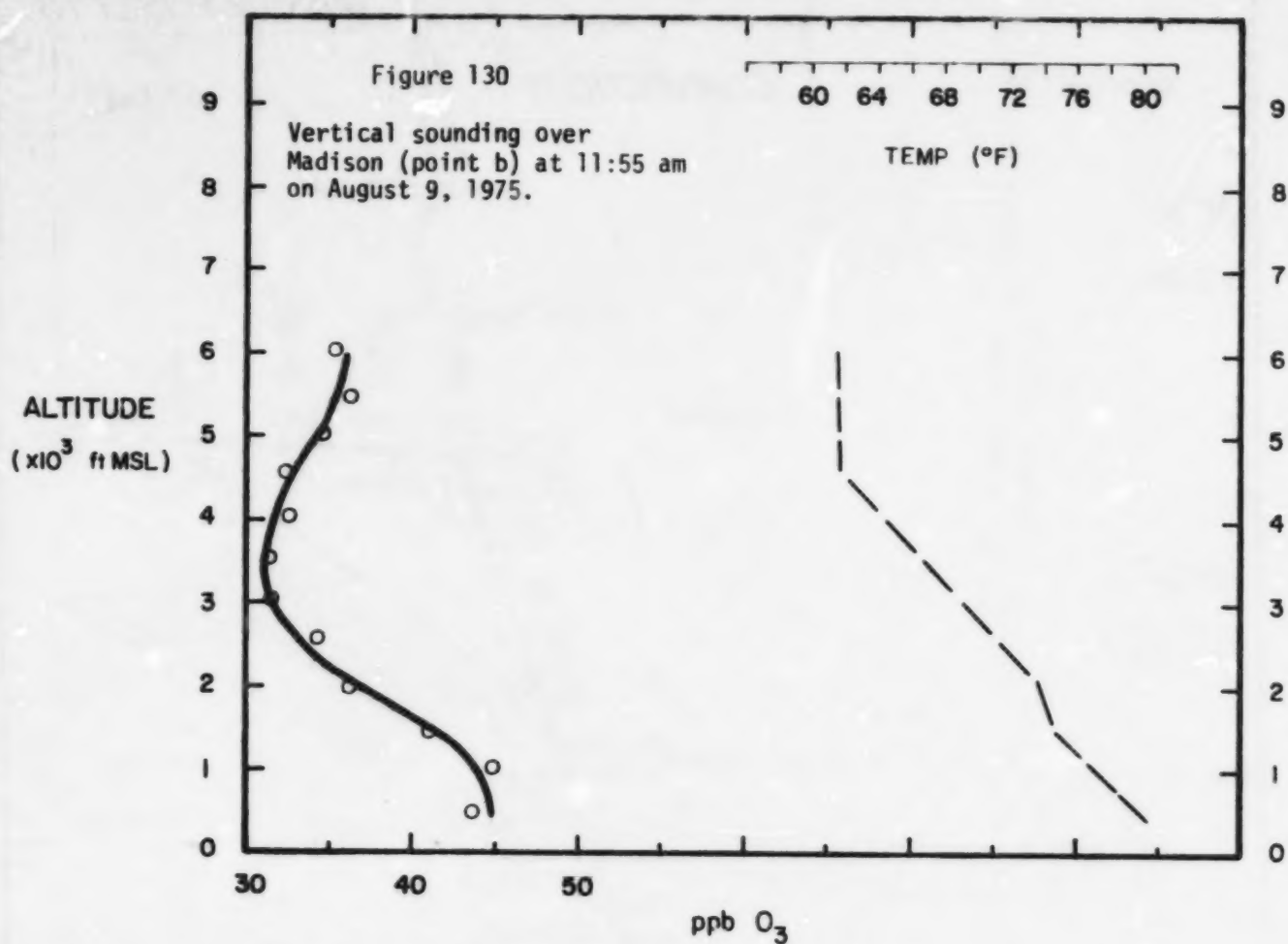
Figure 129. Flight #31 on August 9, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 11:40 AM to 2:00 PM

Leg ab: 11:40 - 11:51 angle ascent to 6000' MSL
 b: 11:52 - 12:06 spiral descent to 500'
 bc: 12:07 - 12:20 at 1000'
 c: 12:21 - 12:40 spiral ascent to 6000' and descent to 1000'
 cd: 12:41 - 1:00 between 500' and 1500'
 d: 1:01 - 1:14 spiral ascent to 6000'
 de: 1:15 - 1:30 angle descent to 1000'
 ea: 1:31 - 2:00 between 500' and 1500'

WIND: 310° at 10 mph (Groton)

WEATHER: Sunny and warm



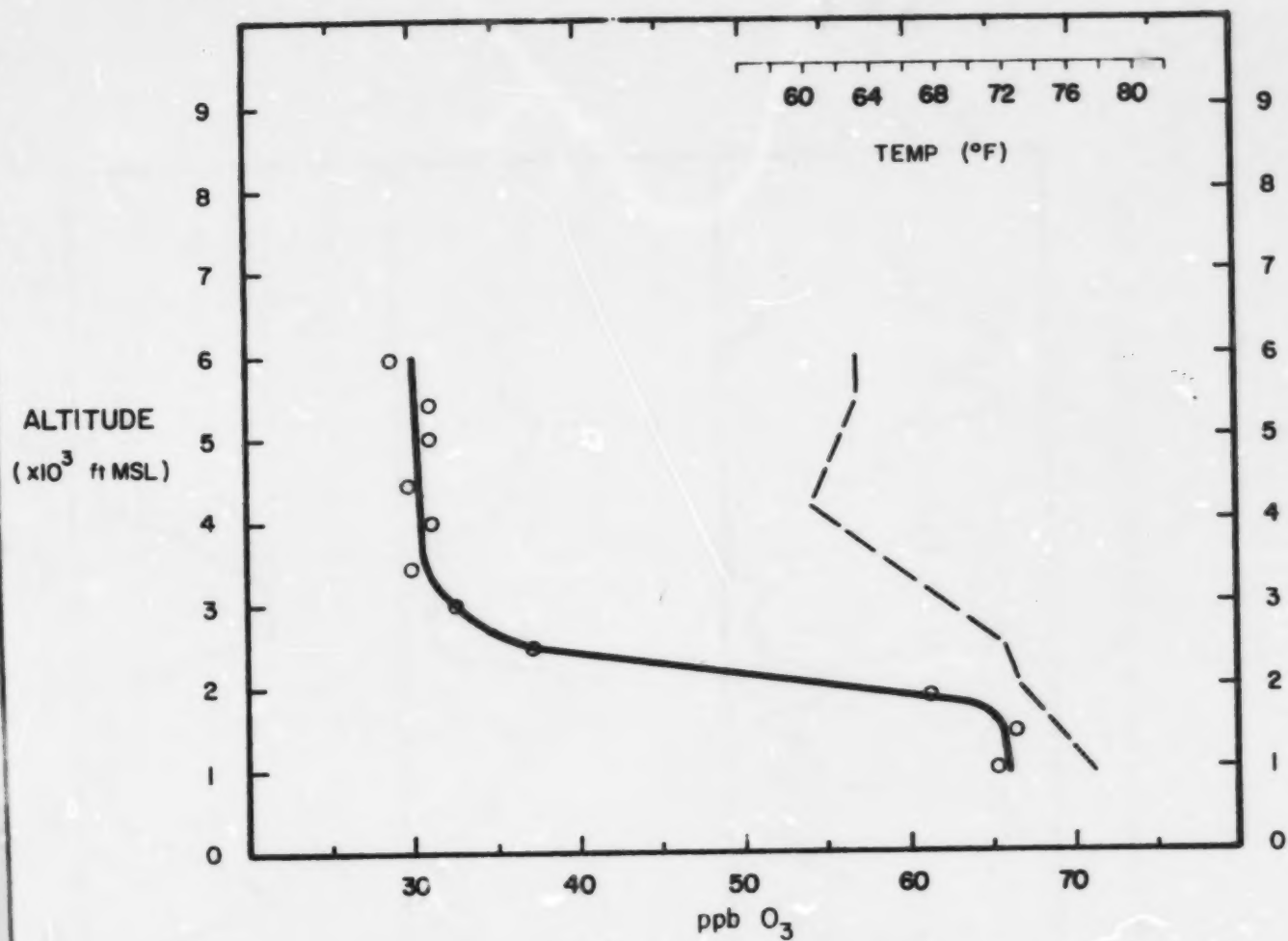
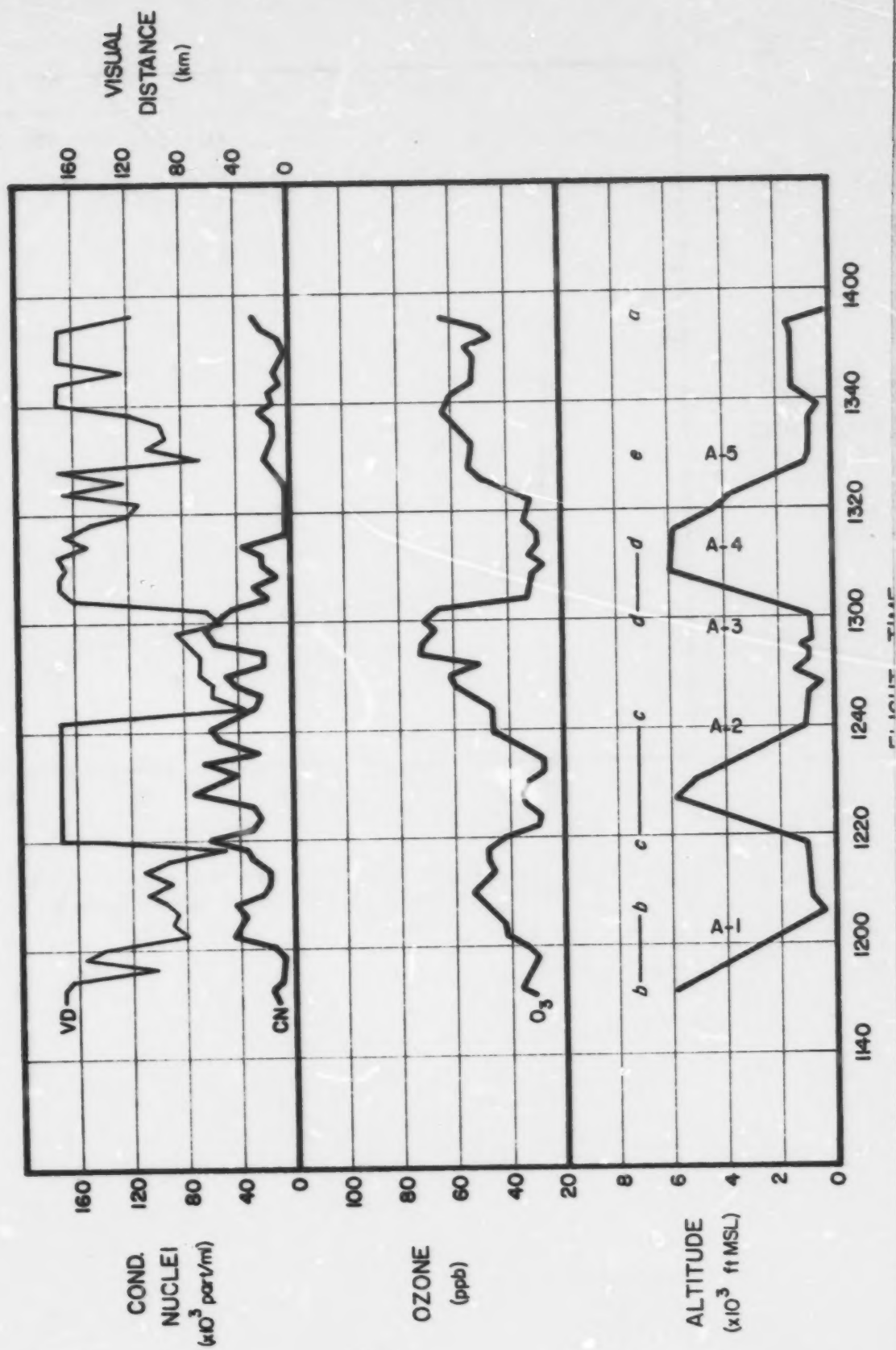


Figure 132. Vertical ozone and temperature profiles over Atlantic Ocean (point d) at 1:05 pm on August 9, 1975.

Figure 133. Plot of aircraft data recorded during flight #31 on August 9, 1975.



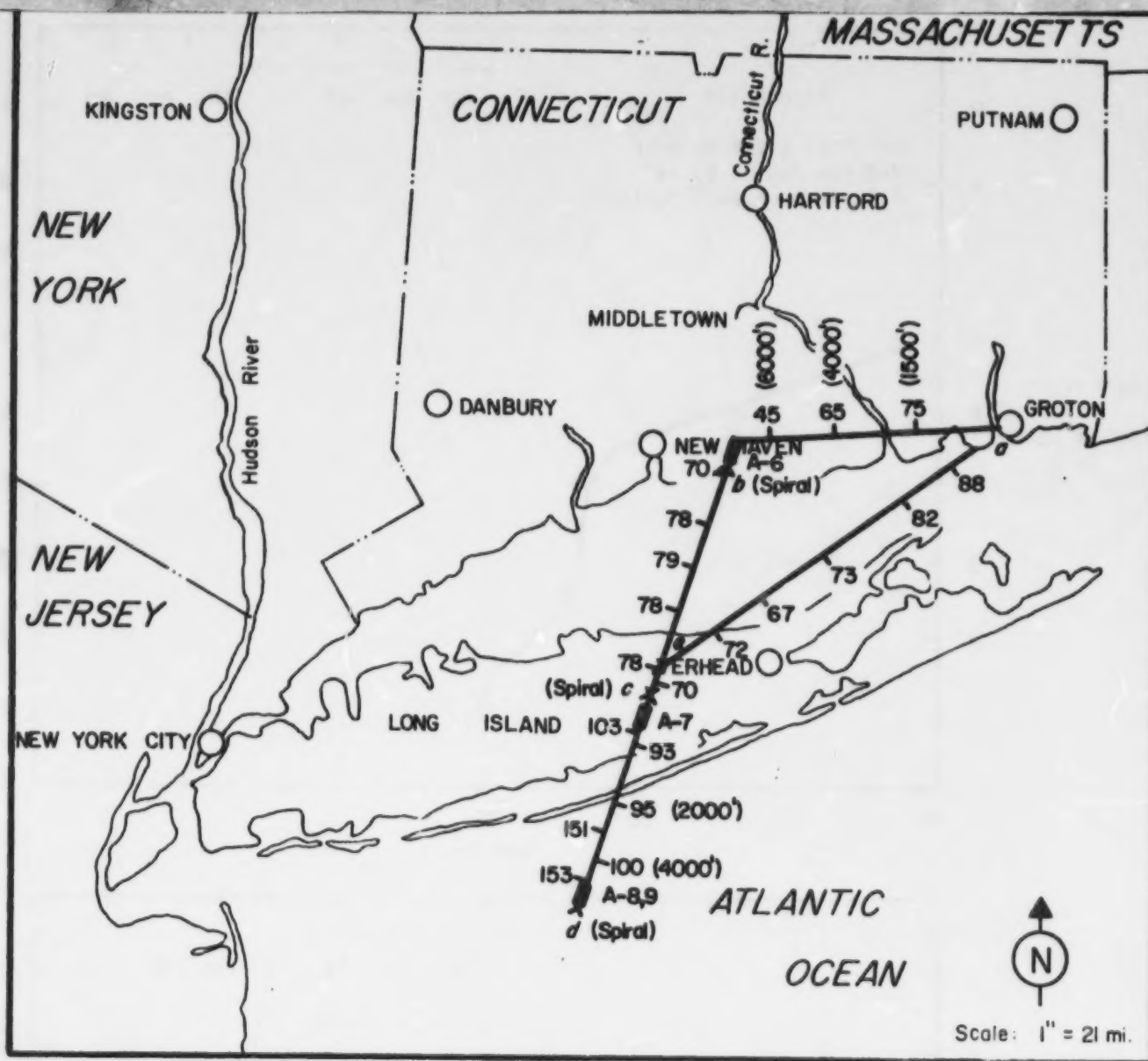


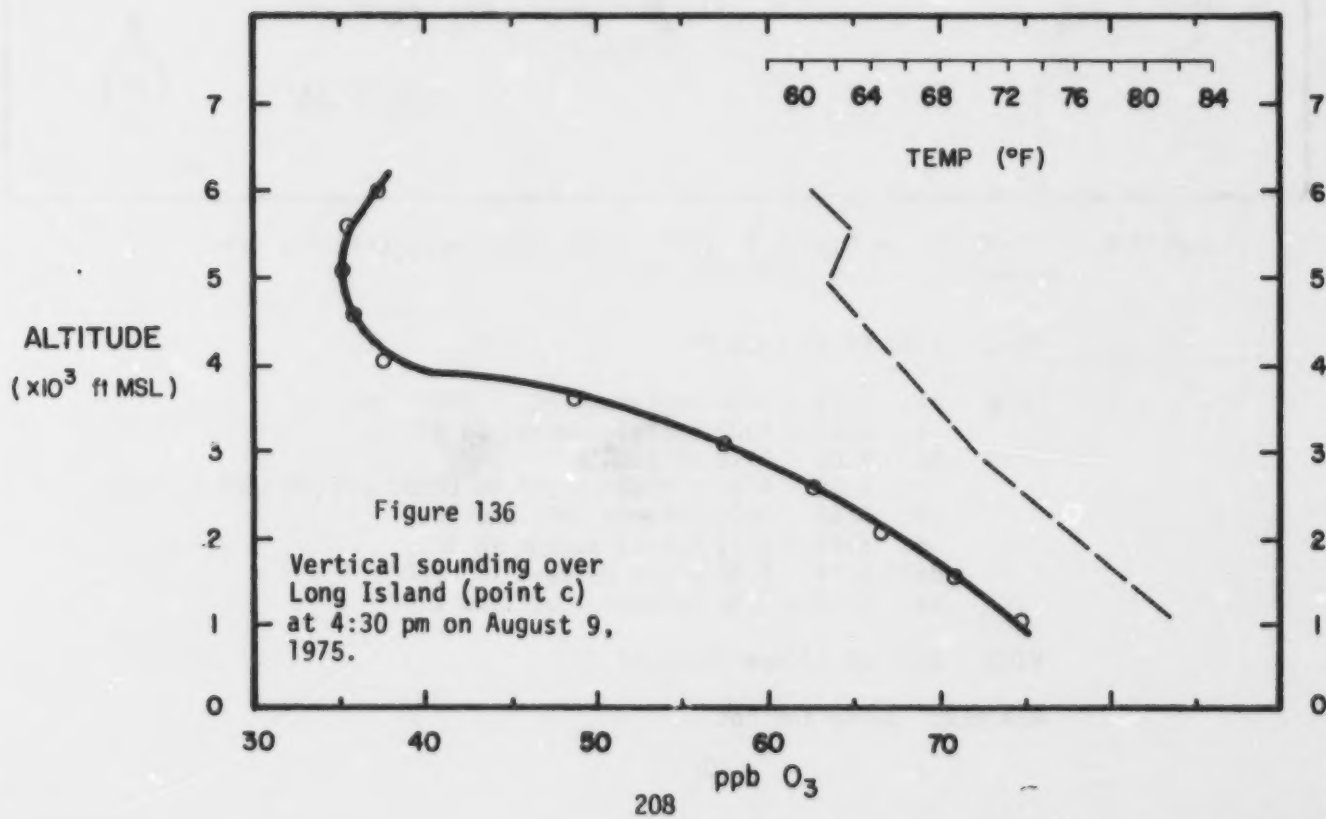
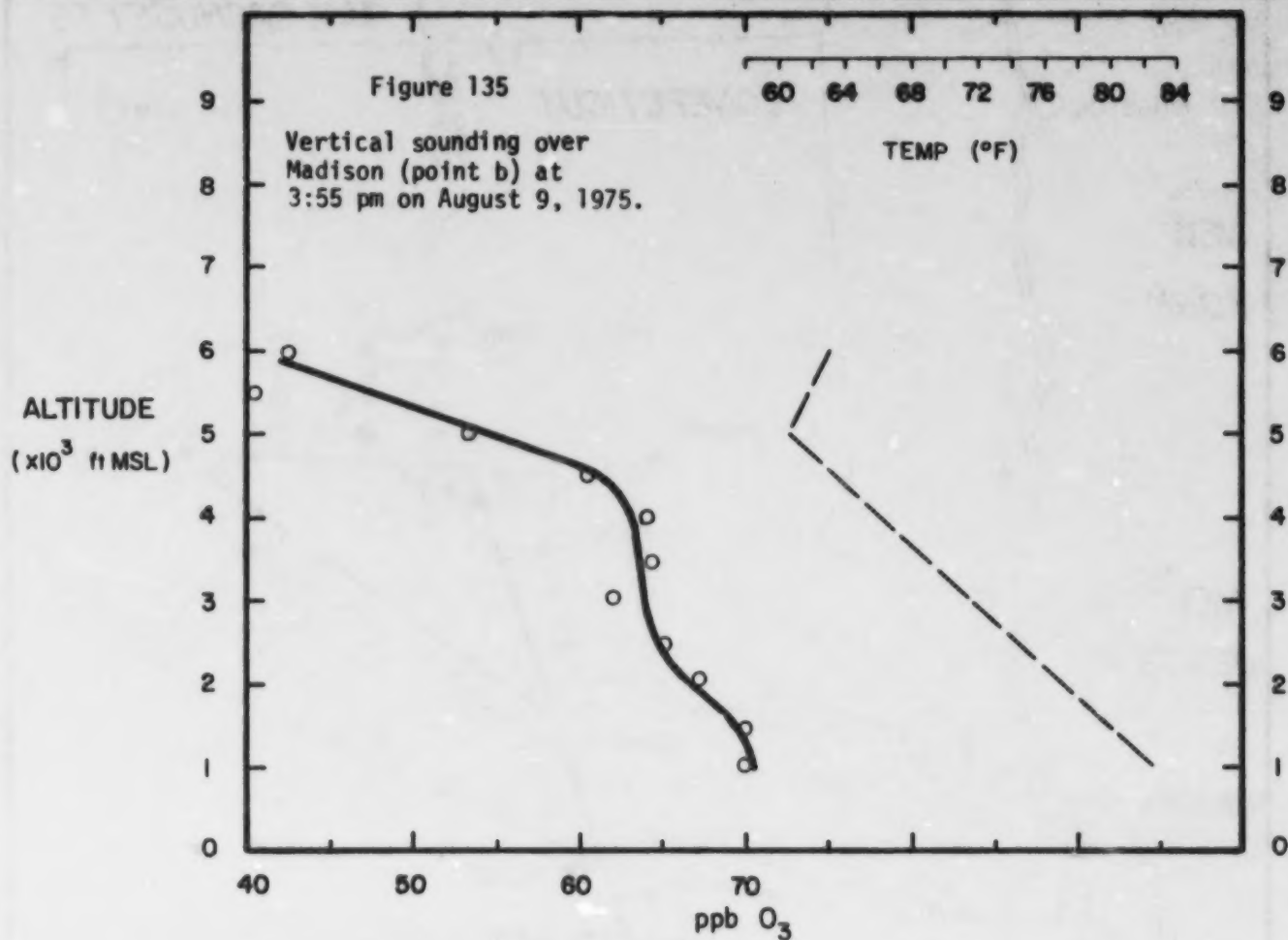
Figure 134. Flight #32 on August 9, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 3:30 PM to 6:00 PM

Leg ab: 3:30 - 3:46 angle ascent to 6000' MSL
 b: 3:47 - 4:02 spiral descent to 500'
 bc: 4:03 - 4:18 at 1000'
 c: 4:19 - 4:42 spiral ascent to 6000' and descent to 1000'
 cd: 4:43 - 5:00 between 500' and 1500'
 d: 5:01 - 5:13 spiral ascent to 6000'
 de: 5:14 - 5:35 angle descent to 2000'
 ea: 5:36 - 6:00 between 1000' and 2000'

WIND: 250° at 13 mph (Groton)

WEATHER: Sunny and hot



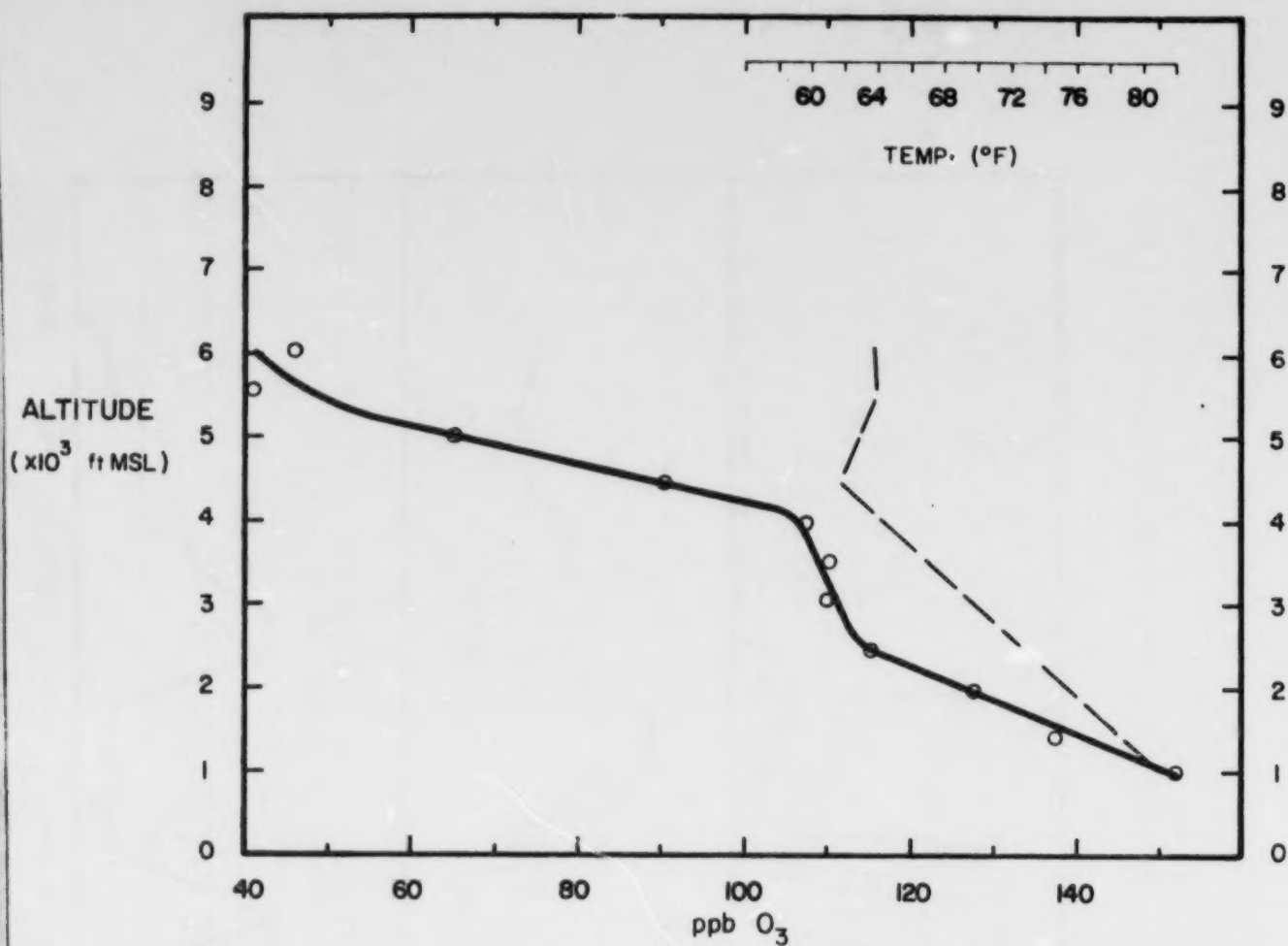
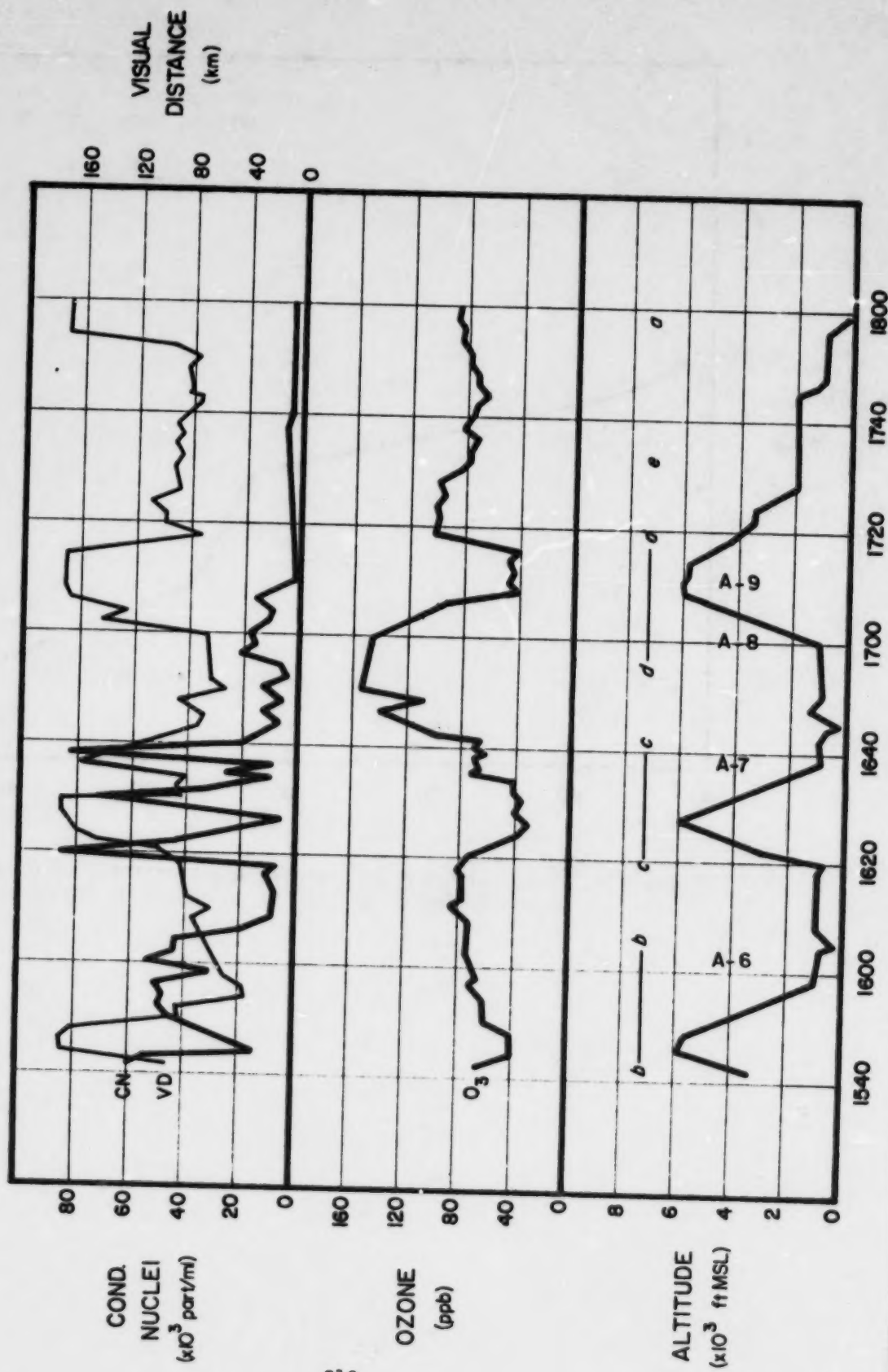


Figure 137. Vertical ozone and temperature profiles over Atlantic Ocean (point d) at 5:10 pm on August 9, 1975.

Figure 138. Plot of aircraft data recorded during flight #32 on August 9, 1975.



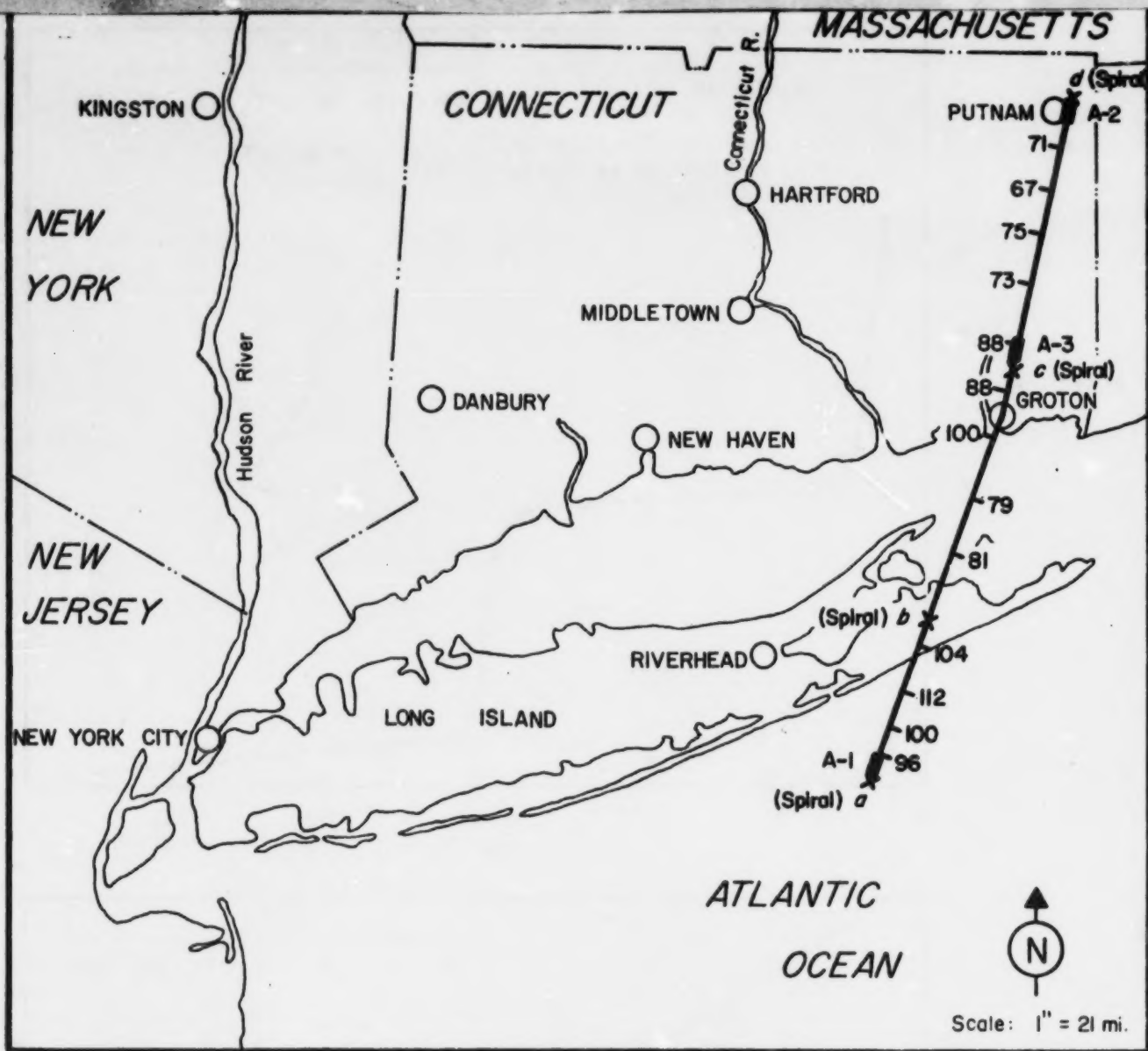


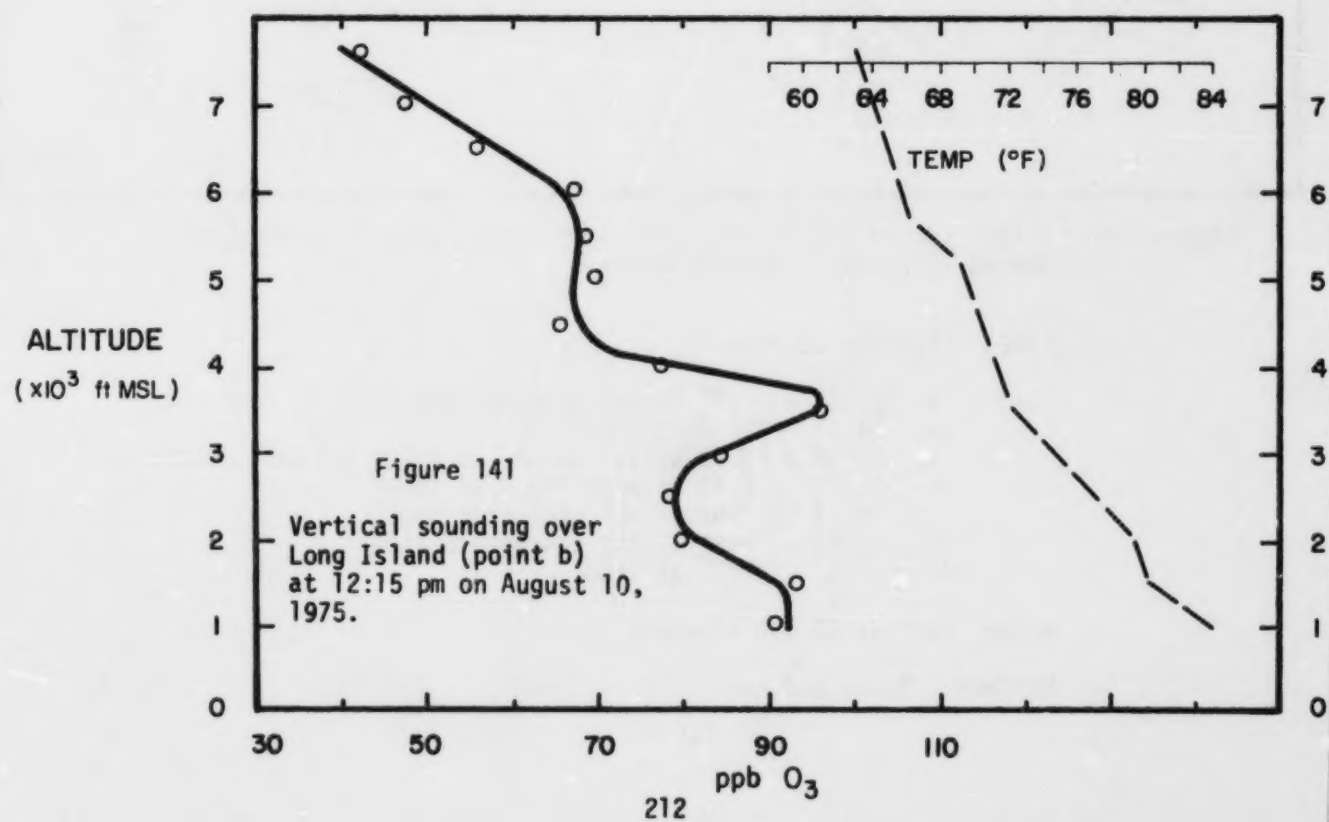
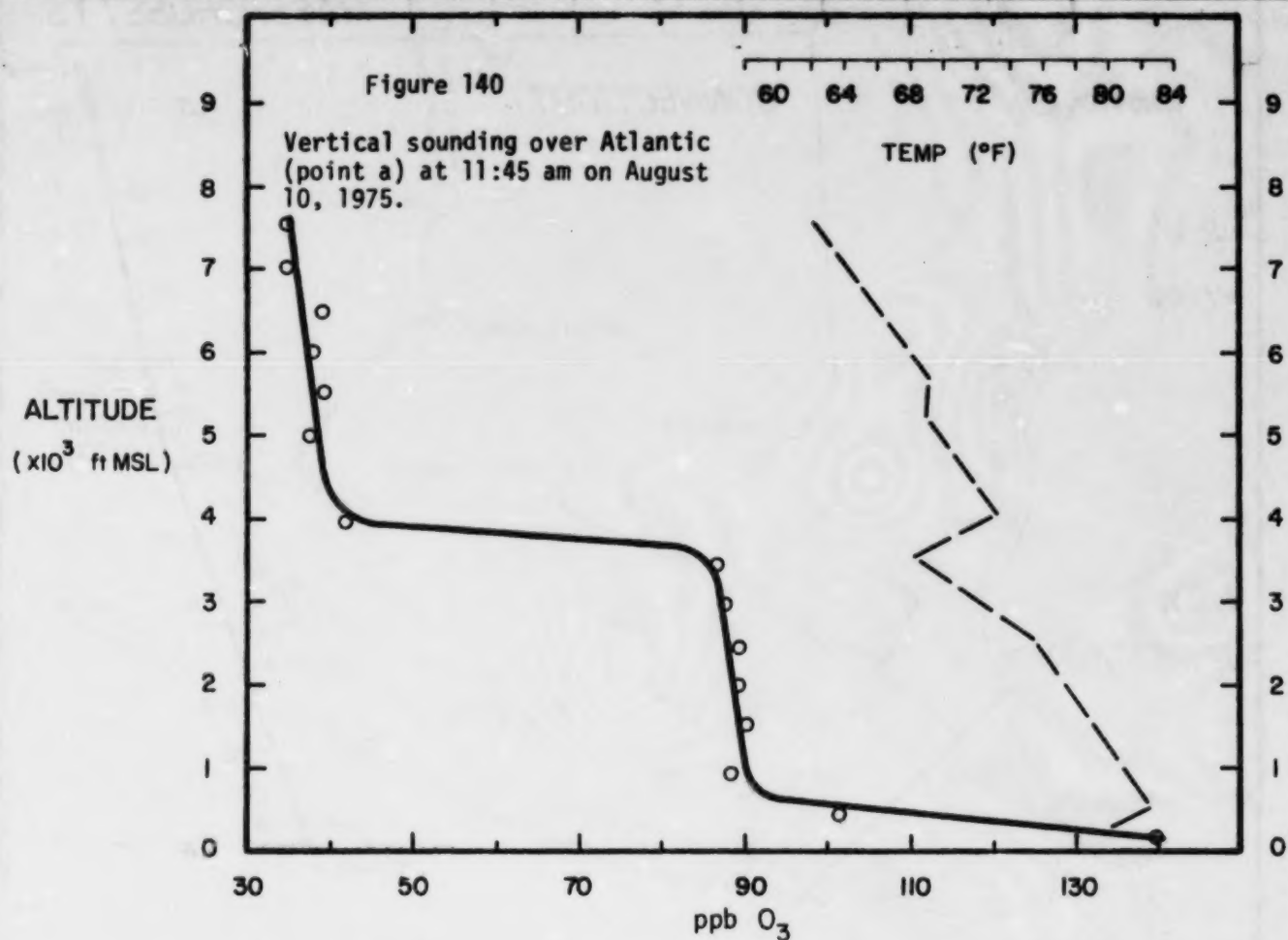
Figure 139. Flight #33 on August 10, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 11:10 AM to 2:00 PM

Leg a: 11:36 - 11:57 spiral descent from 7500' to 500' MSL
 ab: 11:58 - 12:07 at 1000'
 b: 12:08 - 12:31 spiral ascent to 7500' and descent to 1000'
 bc: 12:32 - 12:43 between 500' and 1500'
 c: 12:44 - 12:57 spiral ascent to 8000'
 d: 1:15 - 1:32 spiral descent to 1500'
 dc: 1:33 - 2:00 at 1500'

WIND: 240° at 12 mph (Groton)

WEATHER: Sunny and hot



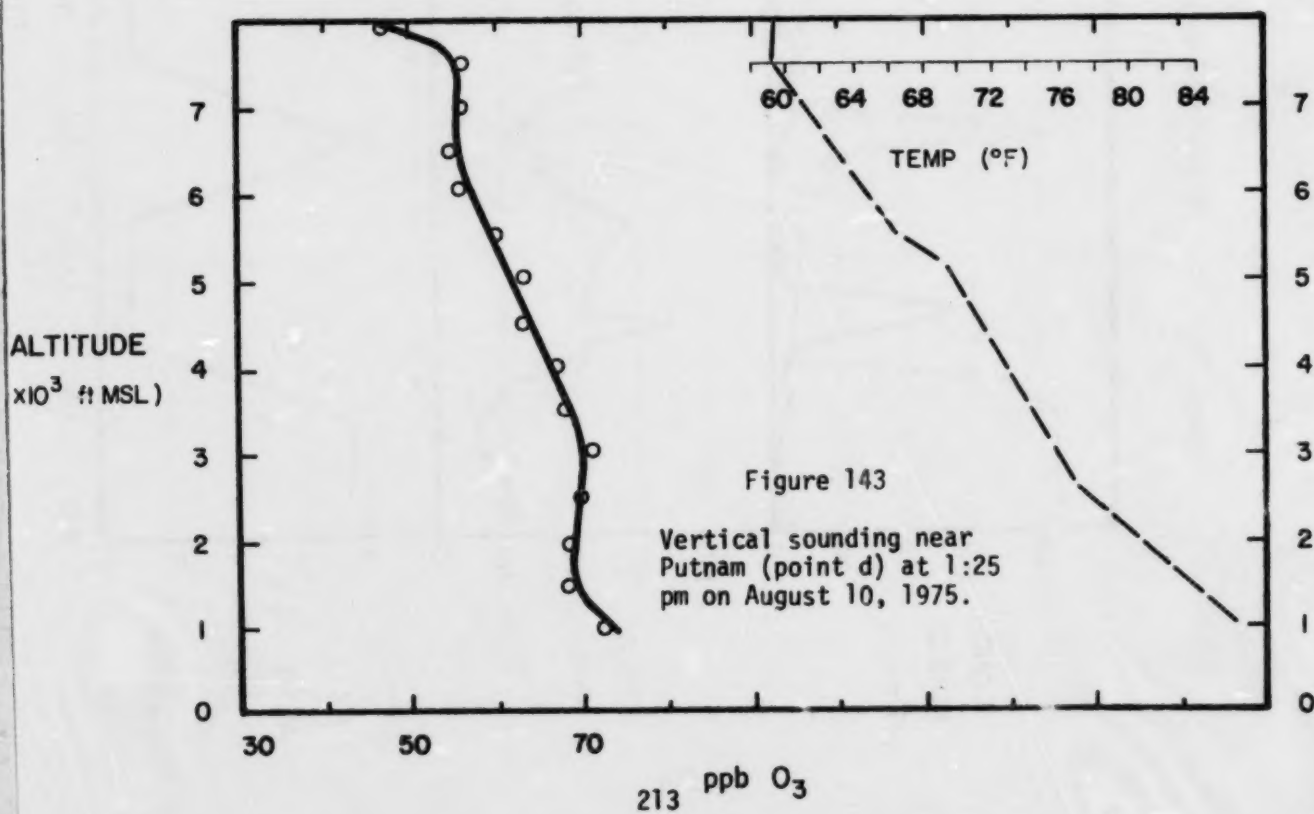
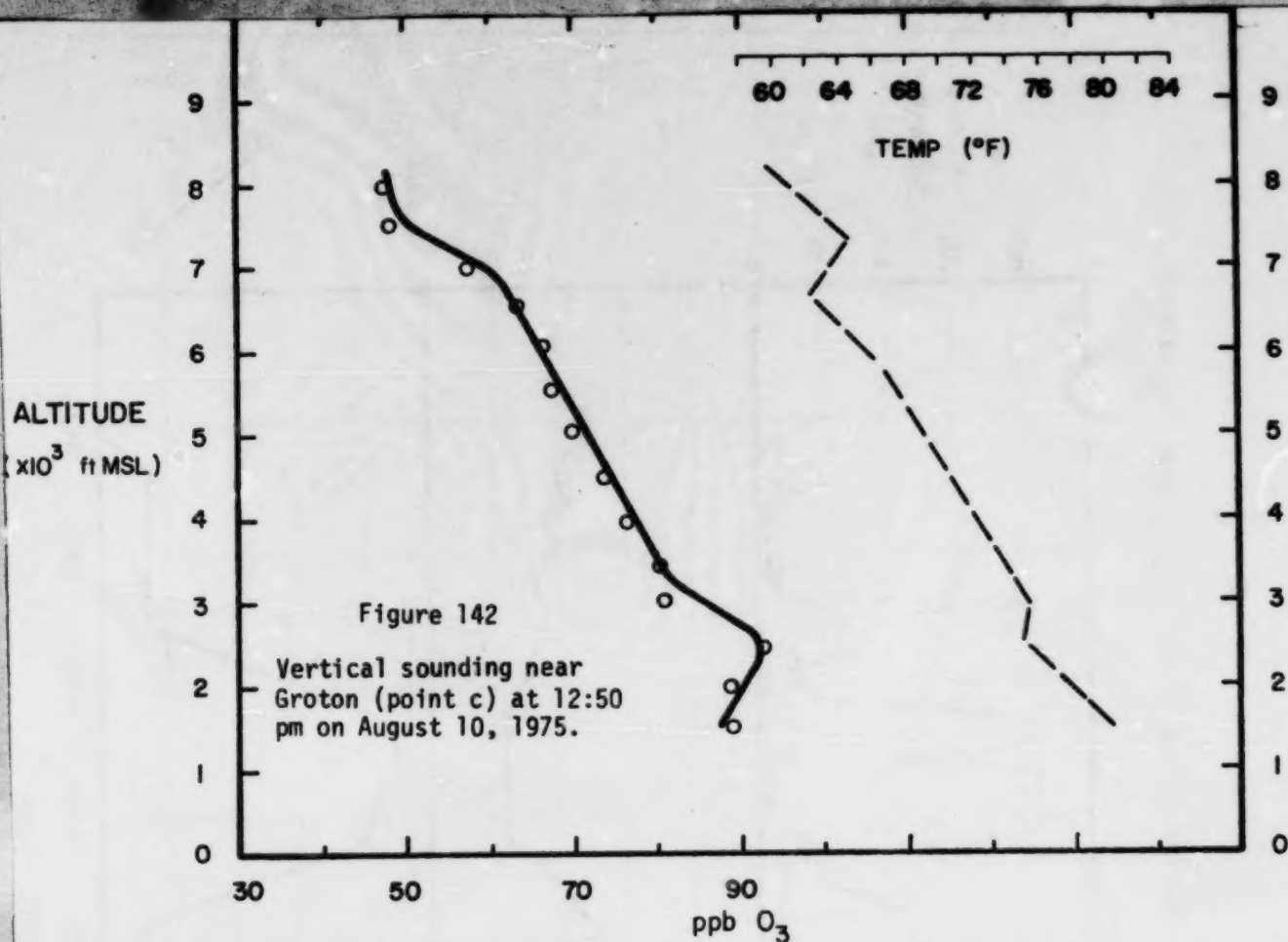


Figure 144. Plot of aircraft data recorded during flight #33 on August 10, 1975.

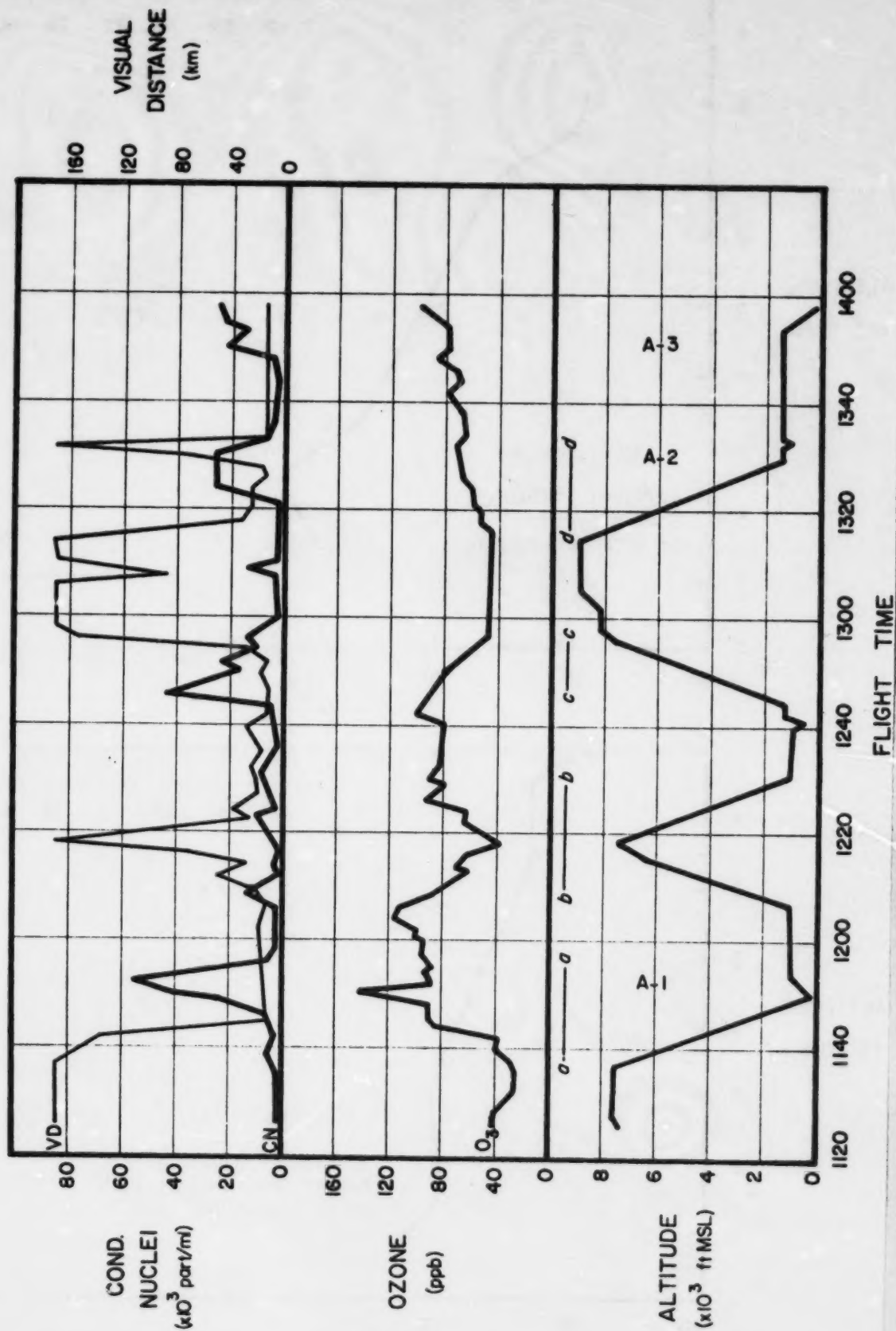




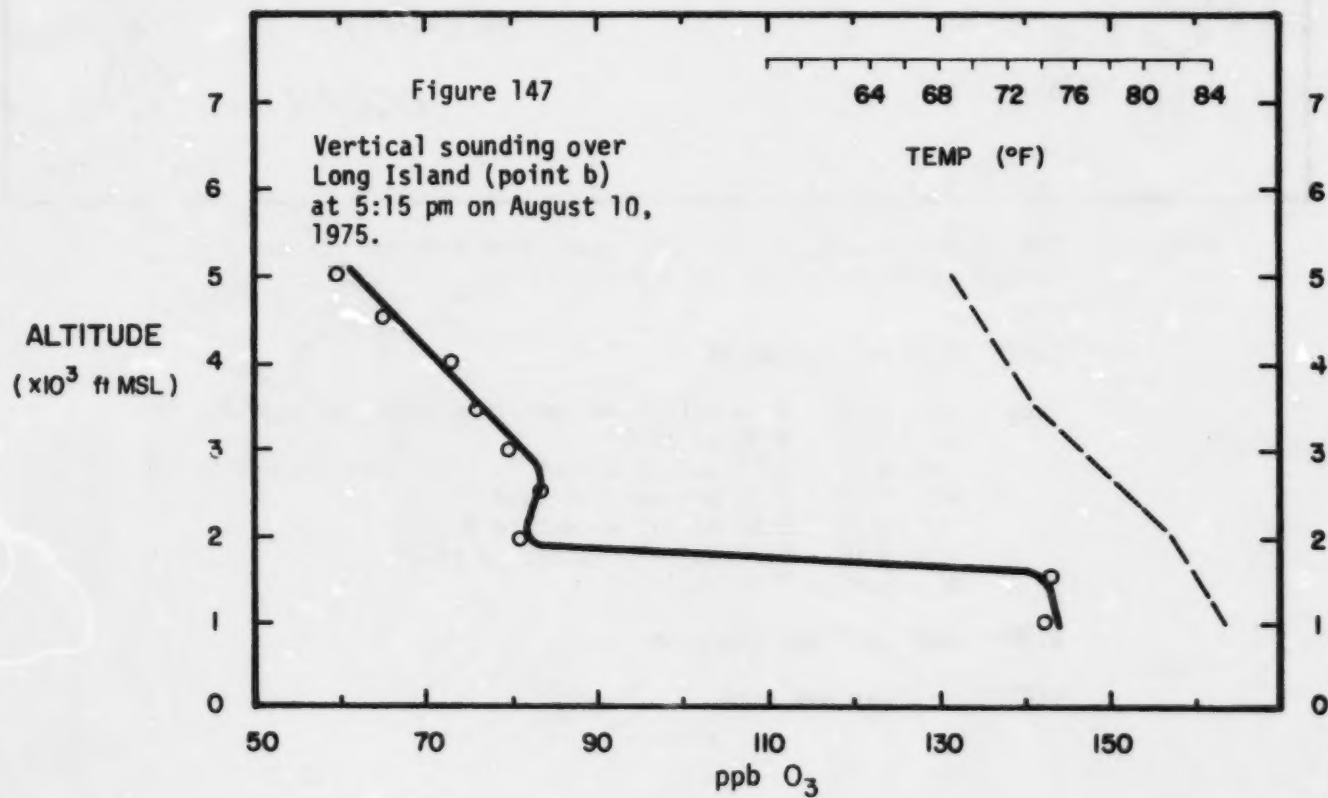
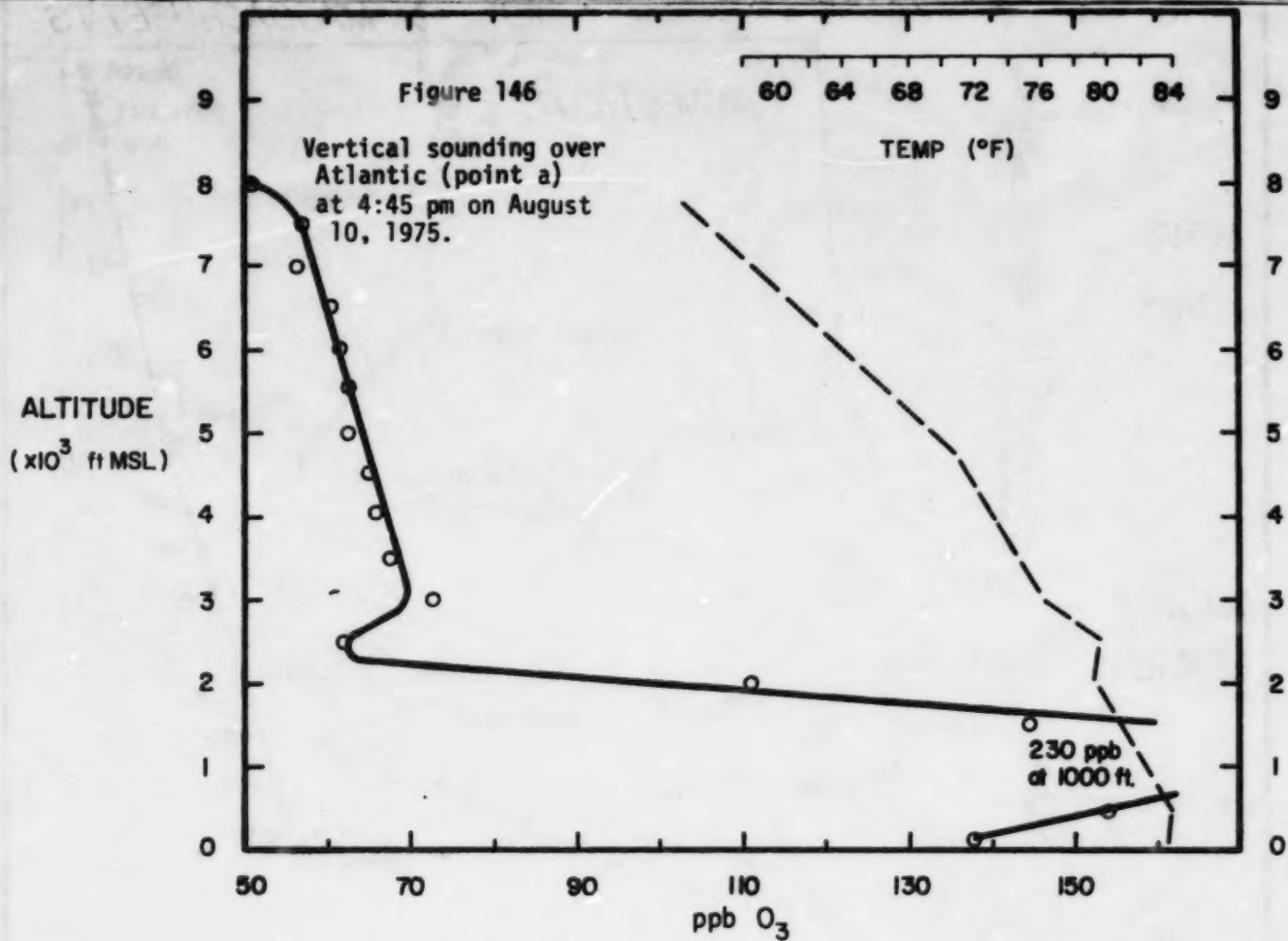
Figure 145. Flight #34 on August 10, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 4:00 PM to 7:00 PM

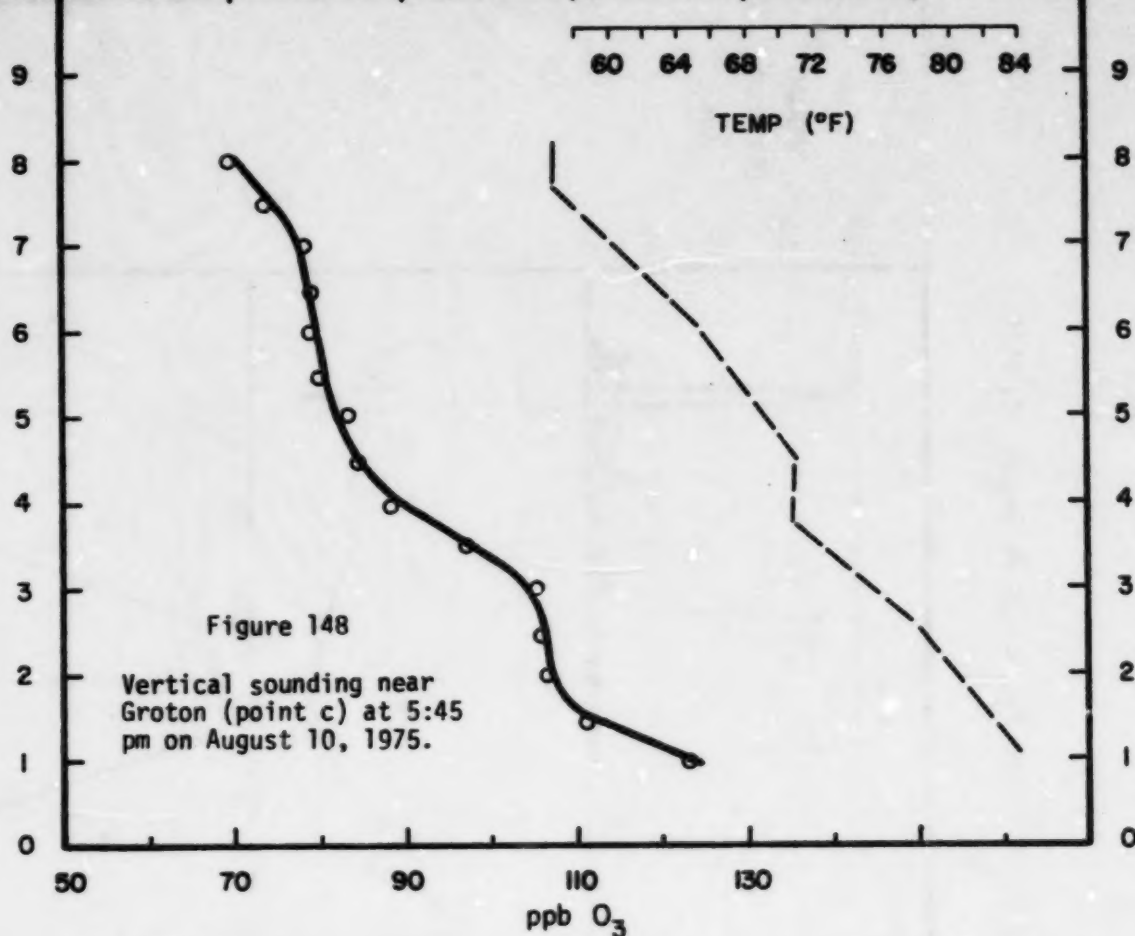
Leg a: 4:32 - 4:54 spiral descent from 8500' to 250' MSL
 ab: 4:55 - 5:06 at 1000'
 b: 5:07 - 5:24 spiral ascent to 5000' and descent to 100'
 bc: 5:25 - 5:40 between 500' and 1500'
 c: 5:41 - 5:53 spiral ascent to 9000'
 d: 6:07 - 6:22 spiral descent to 1500'
 dc: 6:23 - 7:00 at 1500'

WIND: 280° at 5 mph (Hampton)

WEATHER: Clear and warm



ALTITUDE
x10³ ft MSL)



ALTITUDE
x10³ ft MSL)

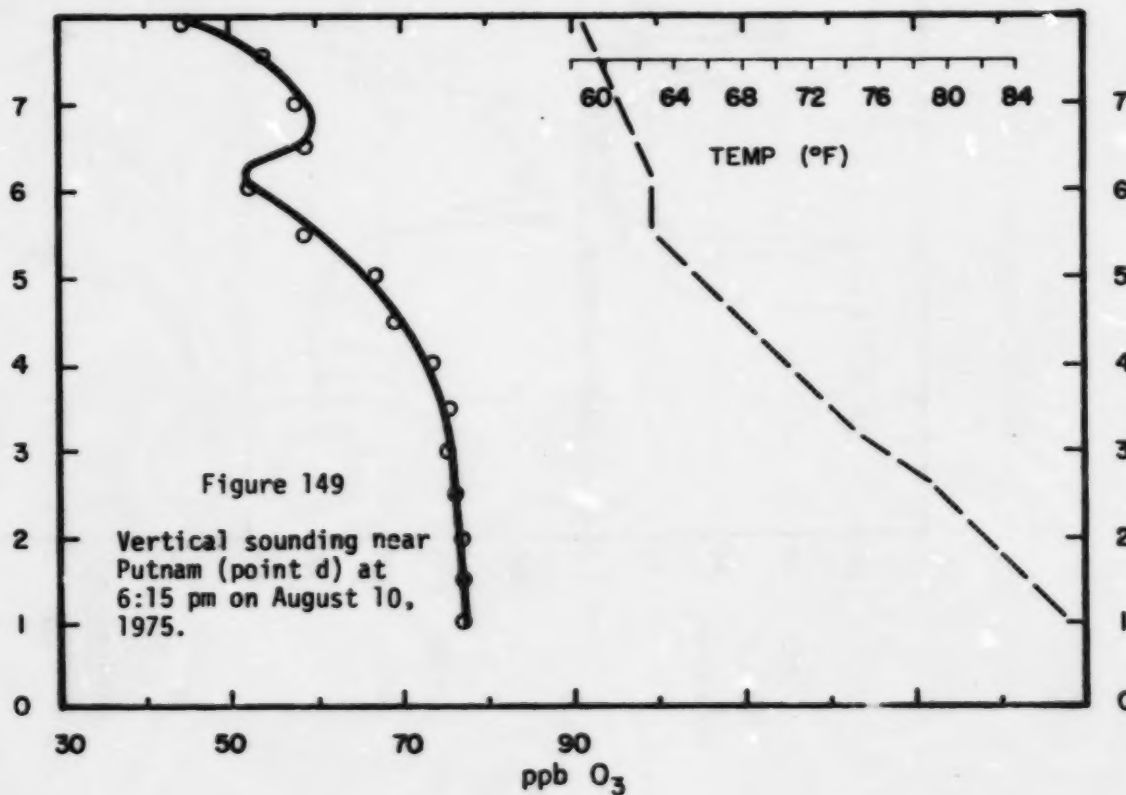


Figure 150. Plot of aircraft data recorded during Flight #34 on August 10, 1975.

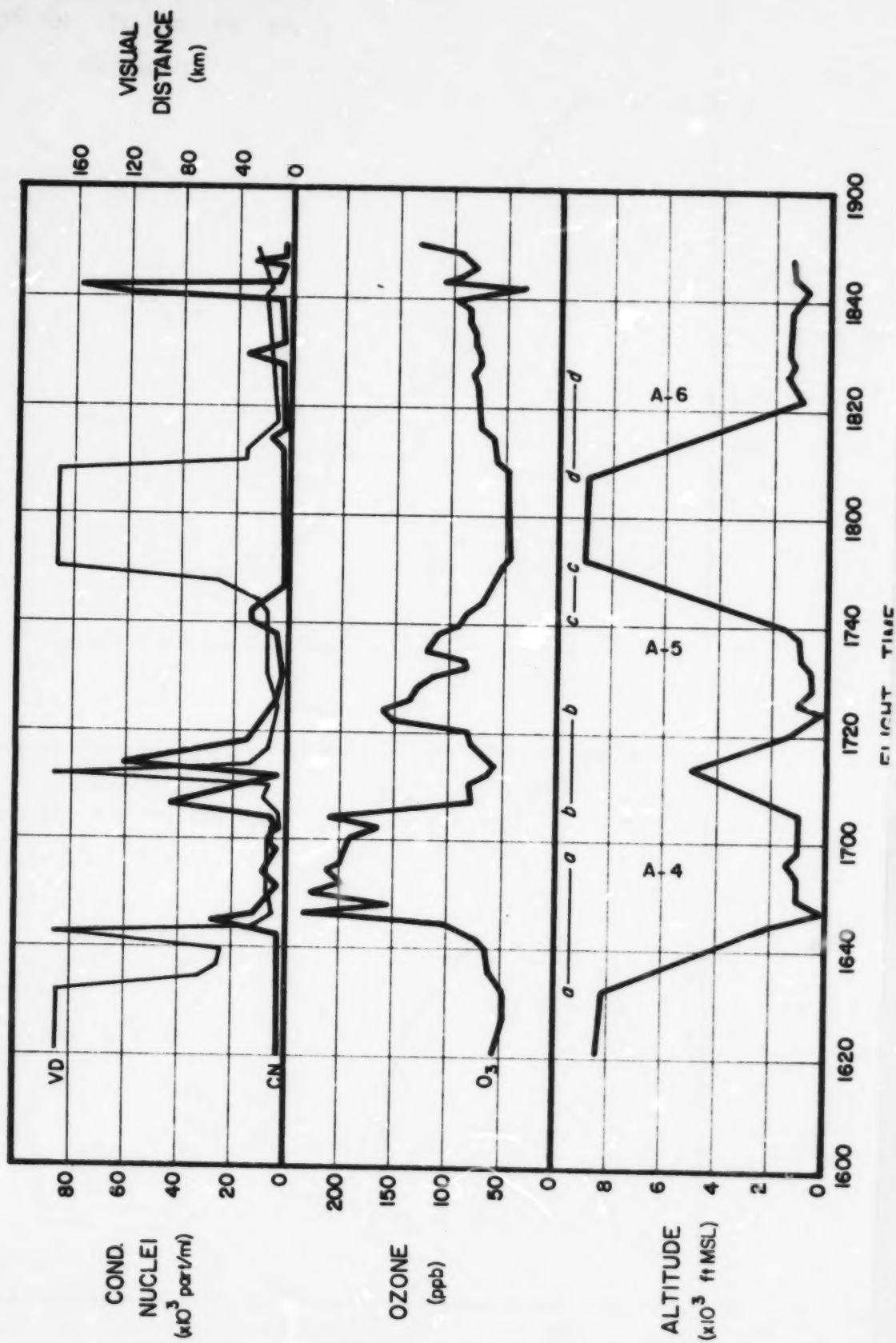




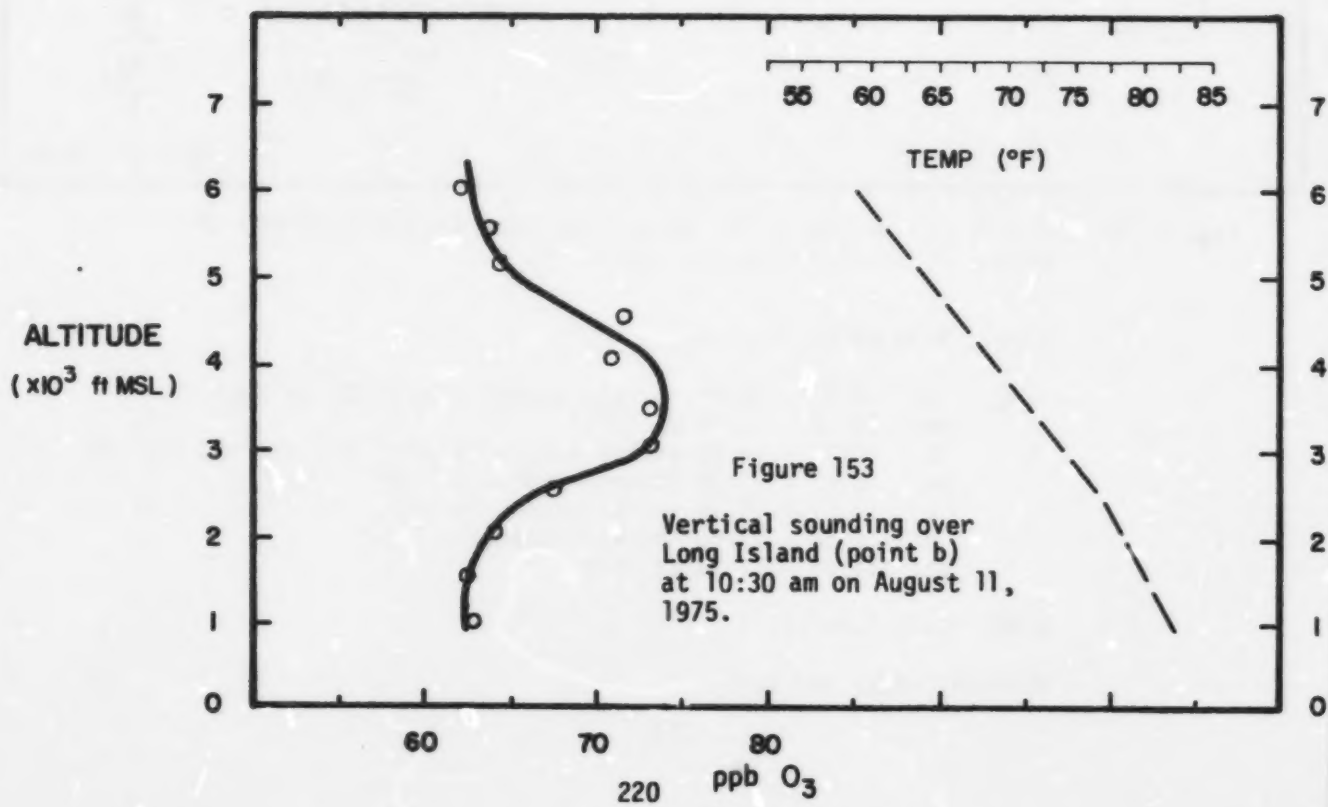
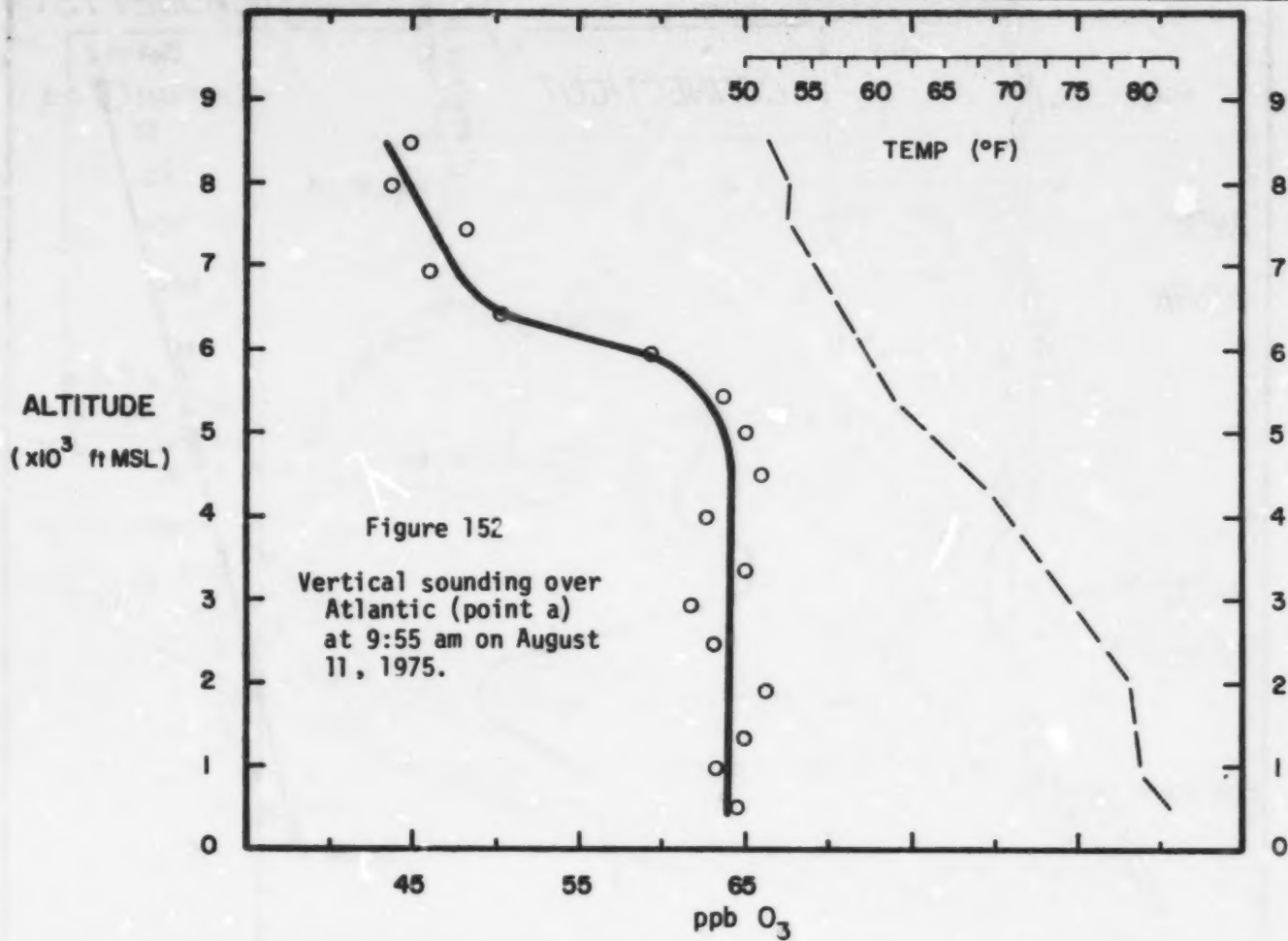
Figure 151. Flight #35 on August 11, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 9:20 AM to 12:15 PM

Leg a: 9:47 - 10:04 spiral descent from 8500' to 500' MSL
 ab: 10:05 - 10:18 at 1000'
 b: 10:19 - 10:42 spiral ascent to 6000' and descent to 1000'
 bc: 10:43 - 11:00 between 500' and 1500'
 c: 11:01 - 11:14 spiral ascent to 8000'
 d: 11:28 - 11:50 spiral descent to 1500'
 dc: 11:51 - 12:15 at 1500'

WIND: Calm (Groton)

WEATHER: Hazy and warm



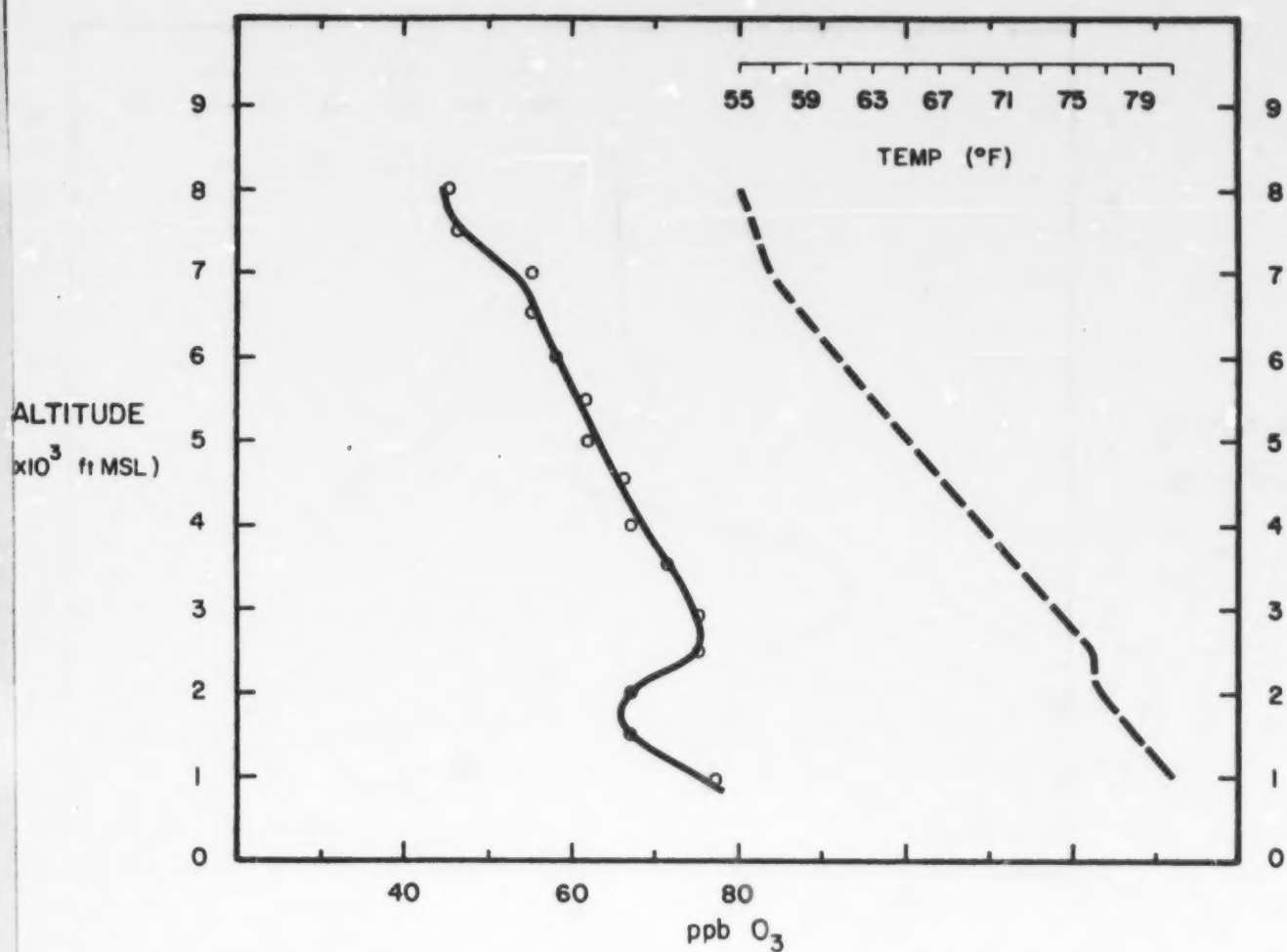


Figure 154. Vertical ozone and temperature profiles near Groton (point c) at 11:00 am on August 11, 1975.

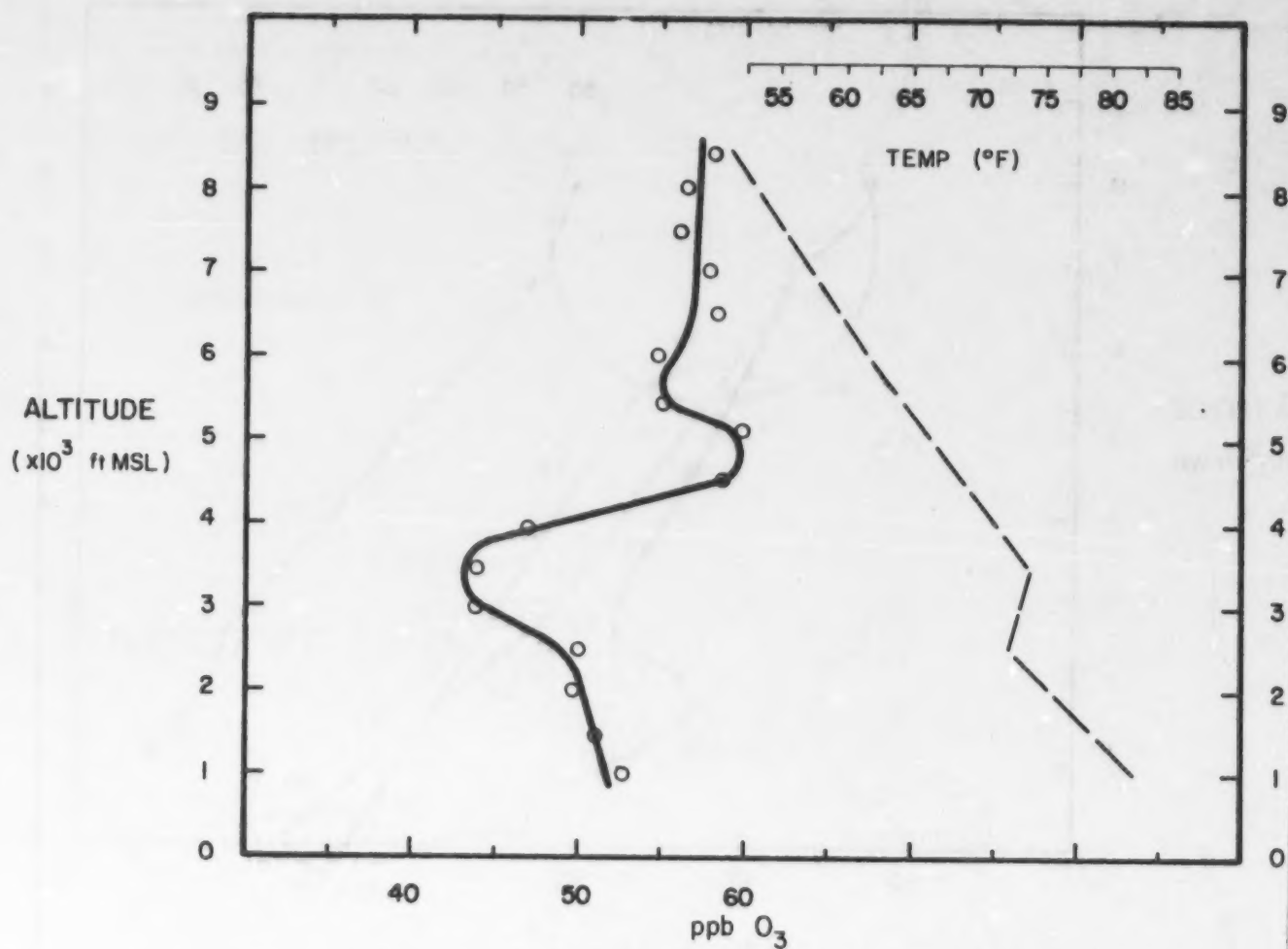
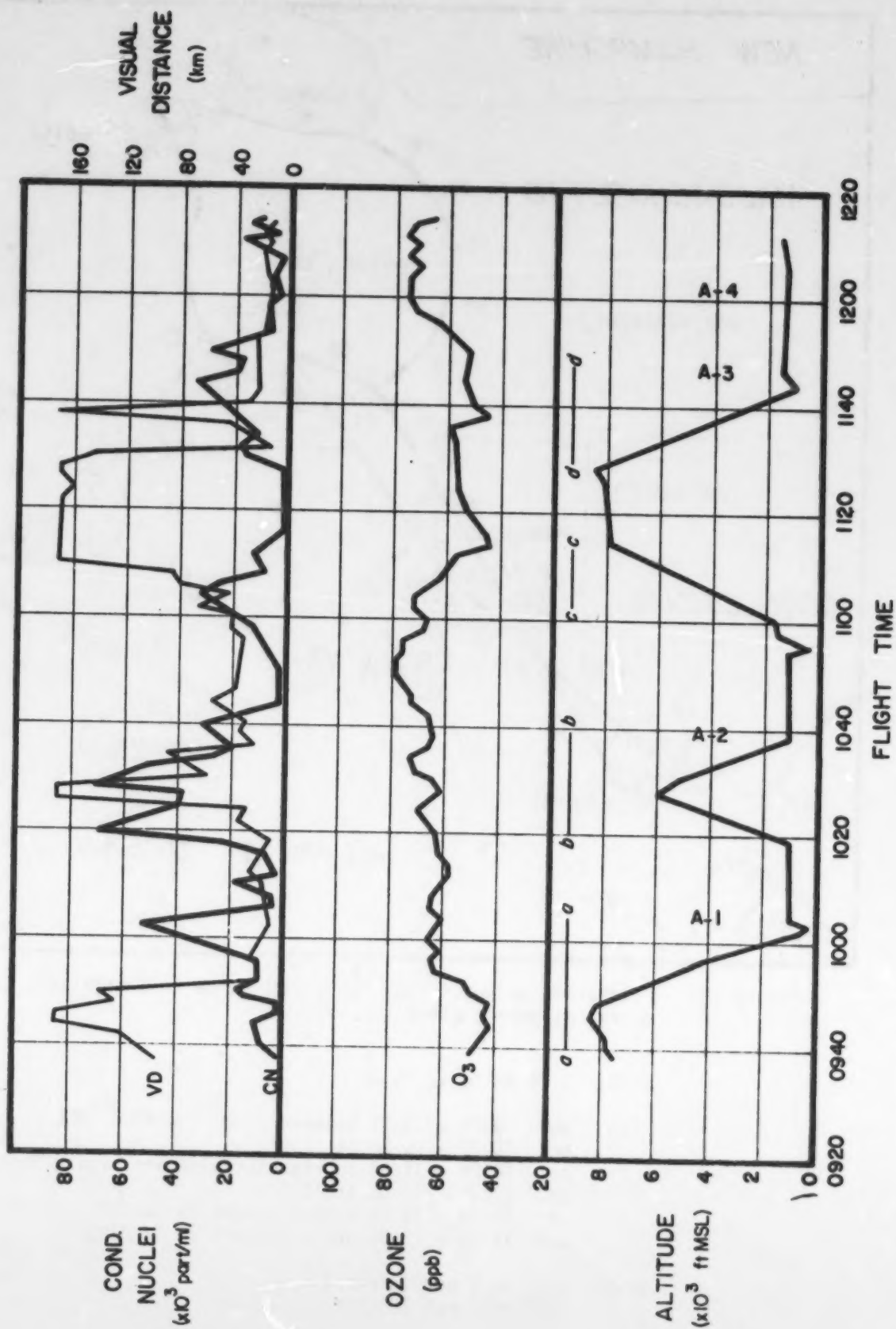


Figure 155. Vertical ozone and temperature profiles near Putnam (point d) at 11:40 am on August 11, 1975.

Figure 156. Plot of aircraft data recorded during flight #35 on August 11, 1975.



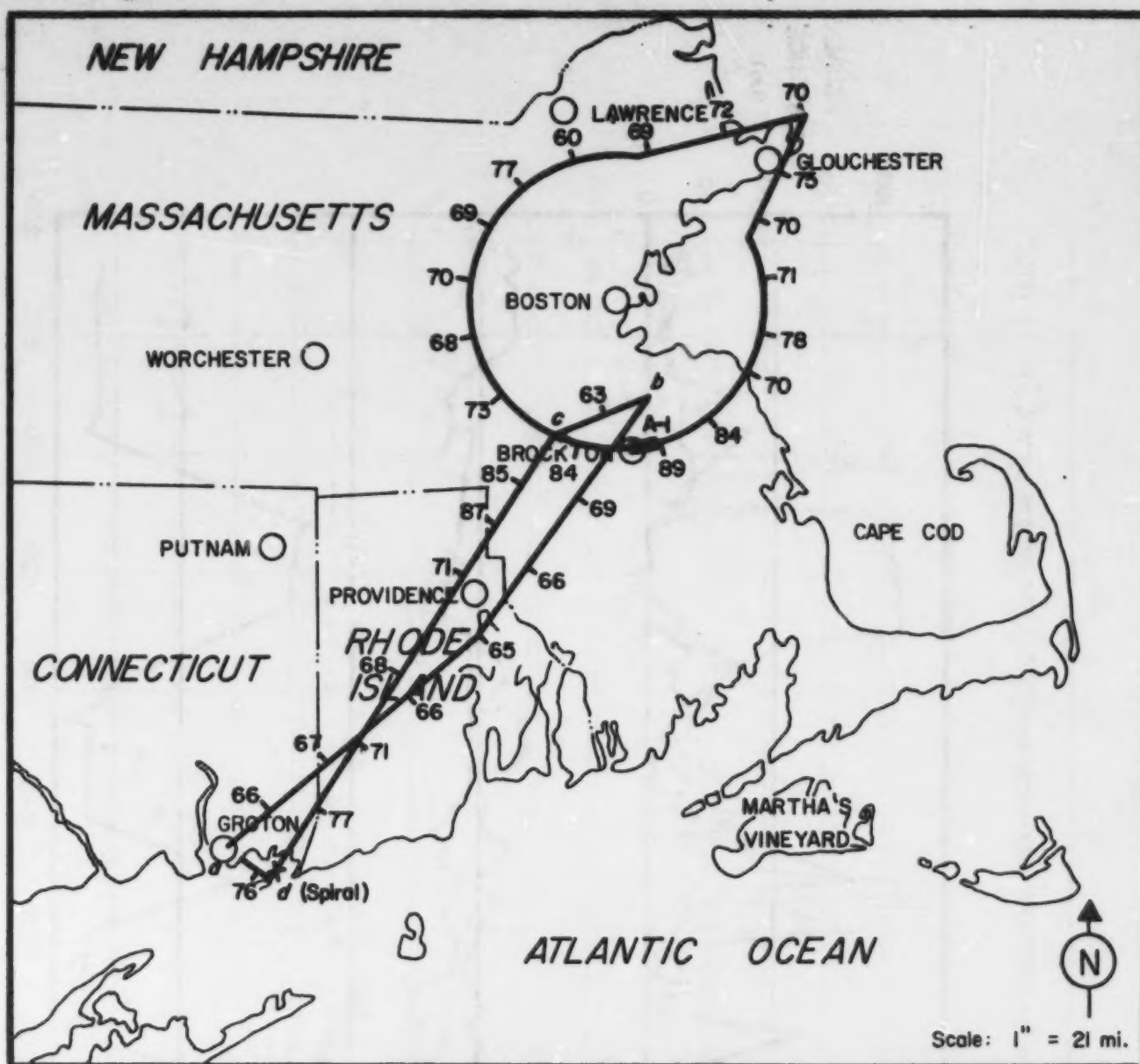


Figure 157. Flight #36 on August 12, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 9:25 AM to 12:35 PM

Leg ab: 9:25 - 10:21 between 1500' and 2500' MSL
 bc: 10:22 - 10:25 at 1500'
 cc: 10:26 - 11:34 counterclockwise arc around Boston at 1500'
 cd: 11:35 - 12:05 at 1500'
 d: 12:06 - 12:24 spiral ascent to 10,000'
 da: 12:25 - 12:35 angle descent to landing

WIND: 010° at 5 mph (Groton)
120° at 5 mph (Boston)

WEATHER: Sunny and hot

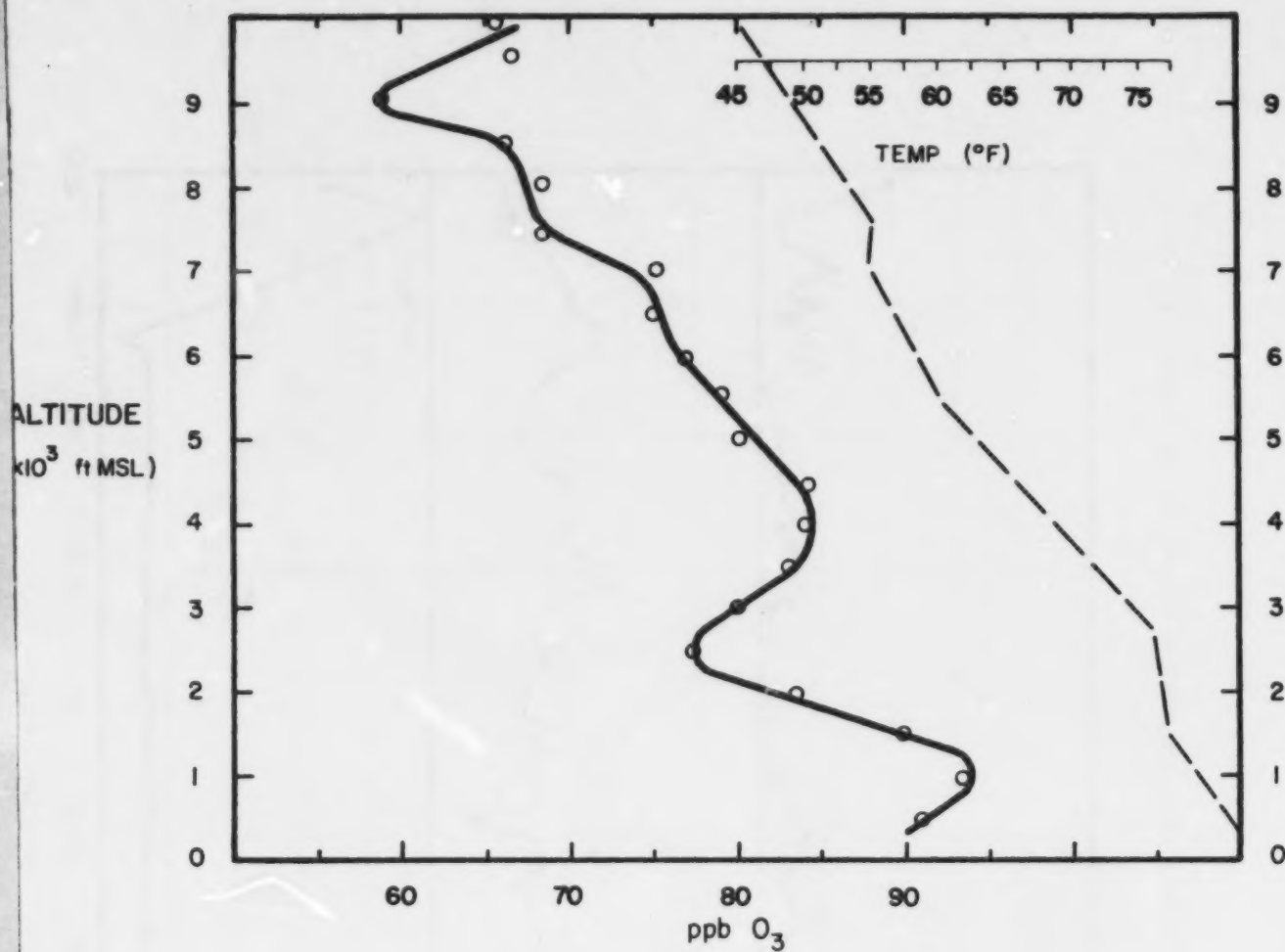
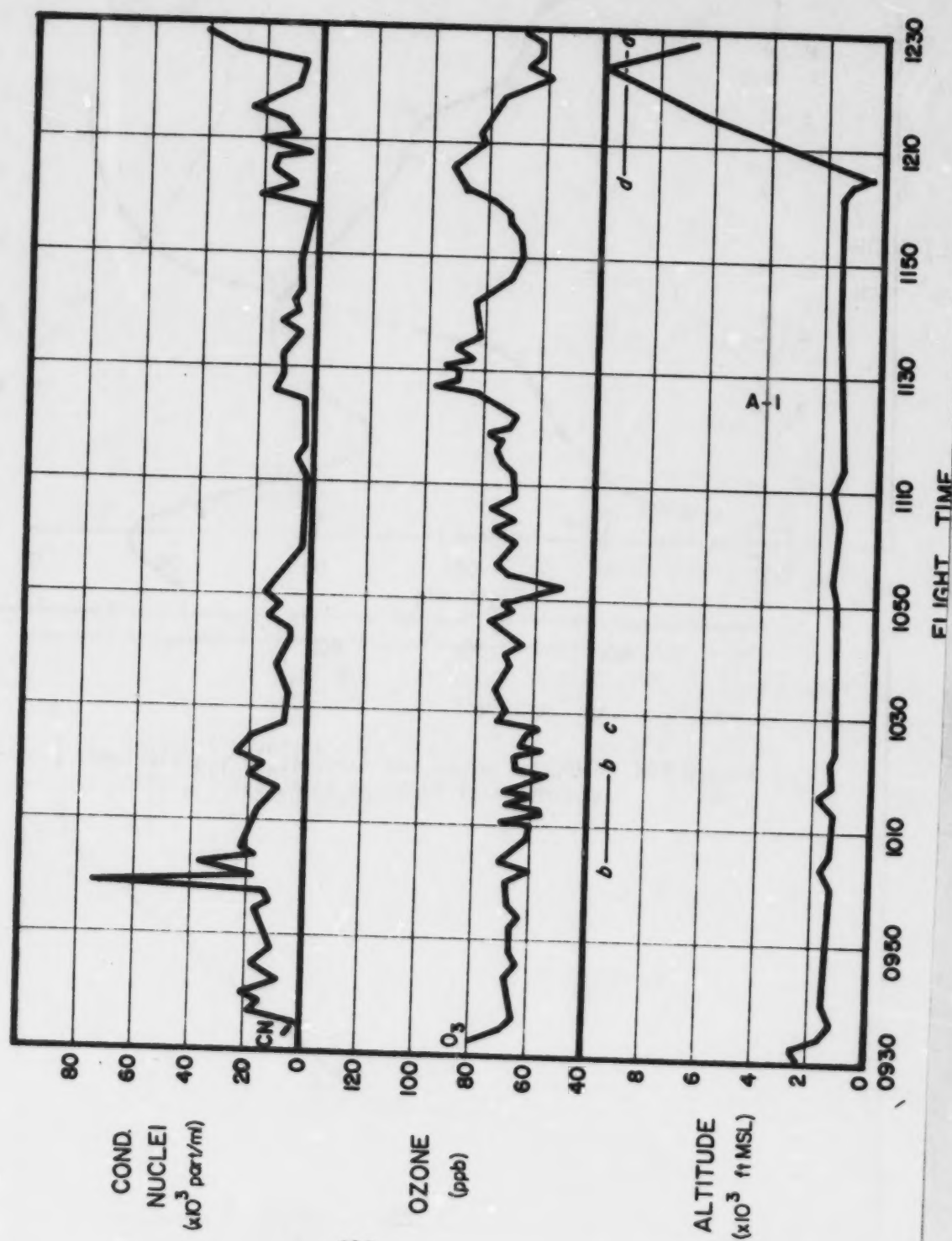


Figure 158. Vertical ozone and temperature profiles near Groton (point d) at 12:15 pm on August 12, 1975.

Figure 159. Plot of aircraft data recorded during flight #36 on August 12, 1975.



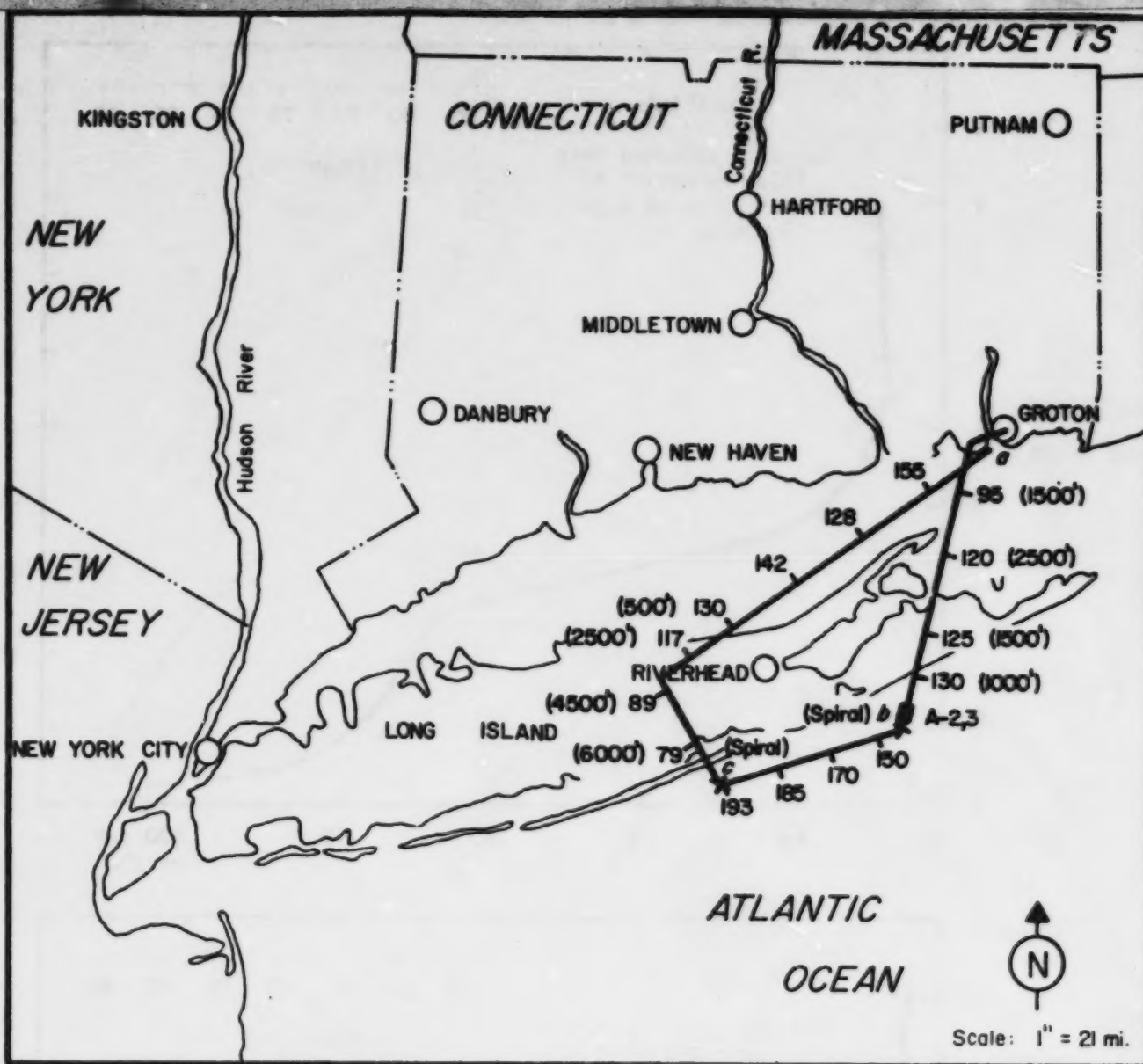


Figure 160. Flight #37 on August 12, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 3:15 PM to 5:05 PM

Leg ab: 3:15 - 3:32 between 1000' and 2500' MSL
 b: 3:33 - 4:02 spiral ascent to 7500' and descent to 500'
 bc: 4:03 - 4:14 at 500'
 c: 4:15 - 4:26 spiral ascent to 7000'
 ca: 4:27 - 5:05 angle descent to landing

WIND: 260° at 5 mph (Groton)

WEATHER: Sunny and warm

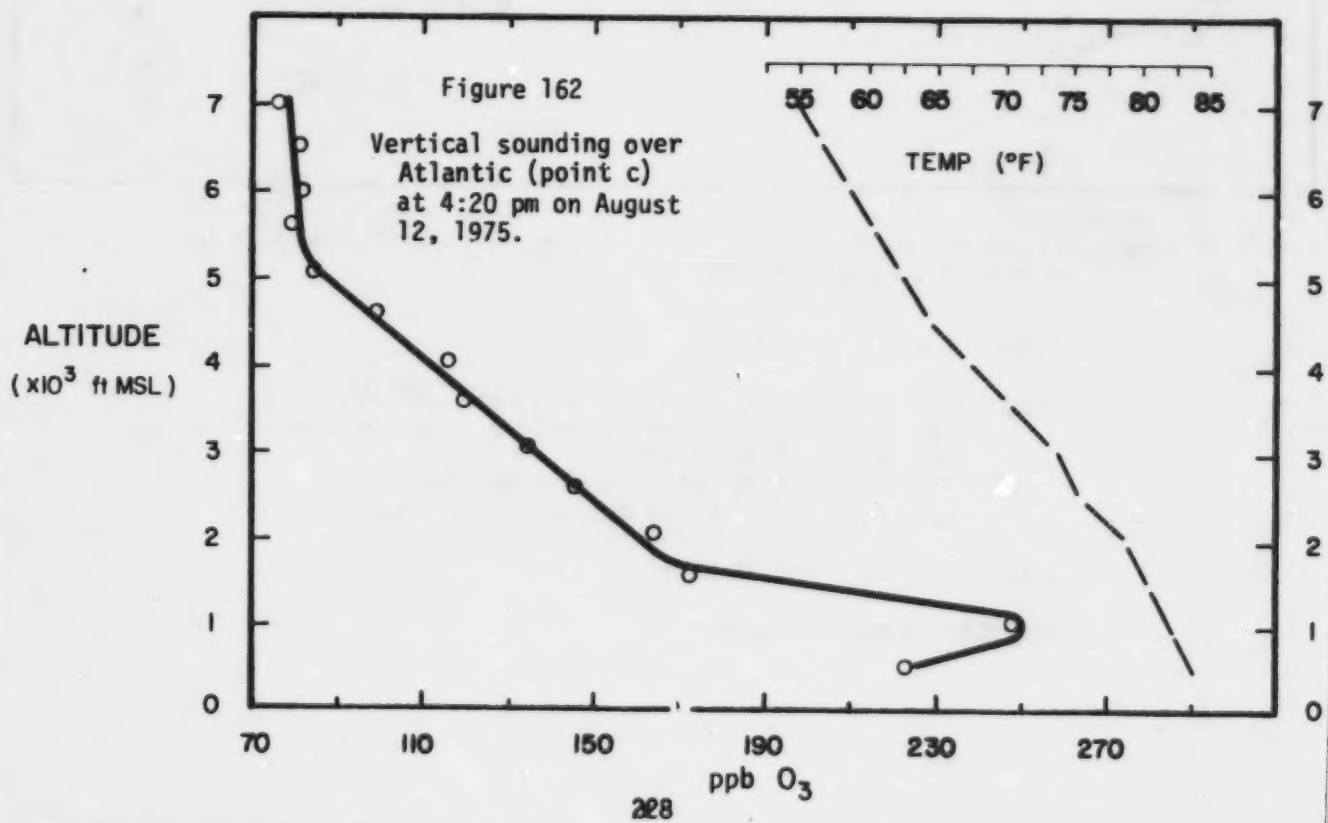
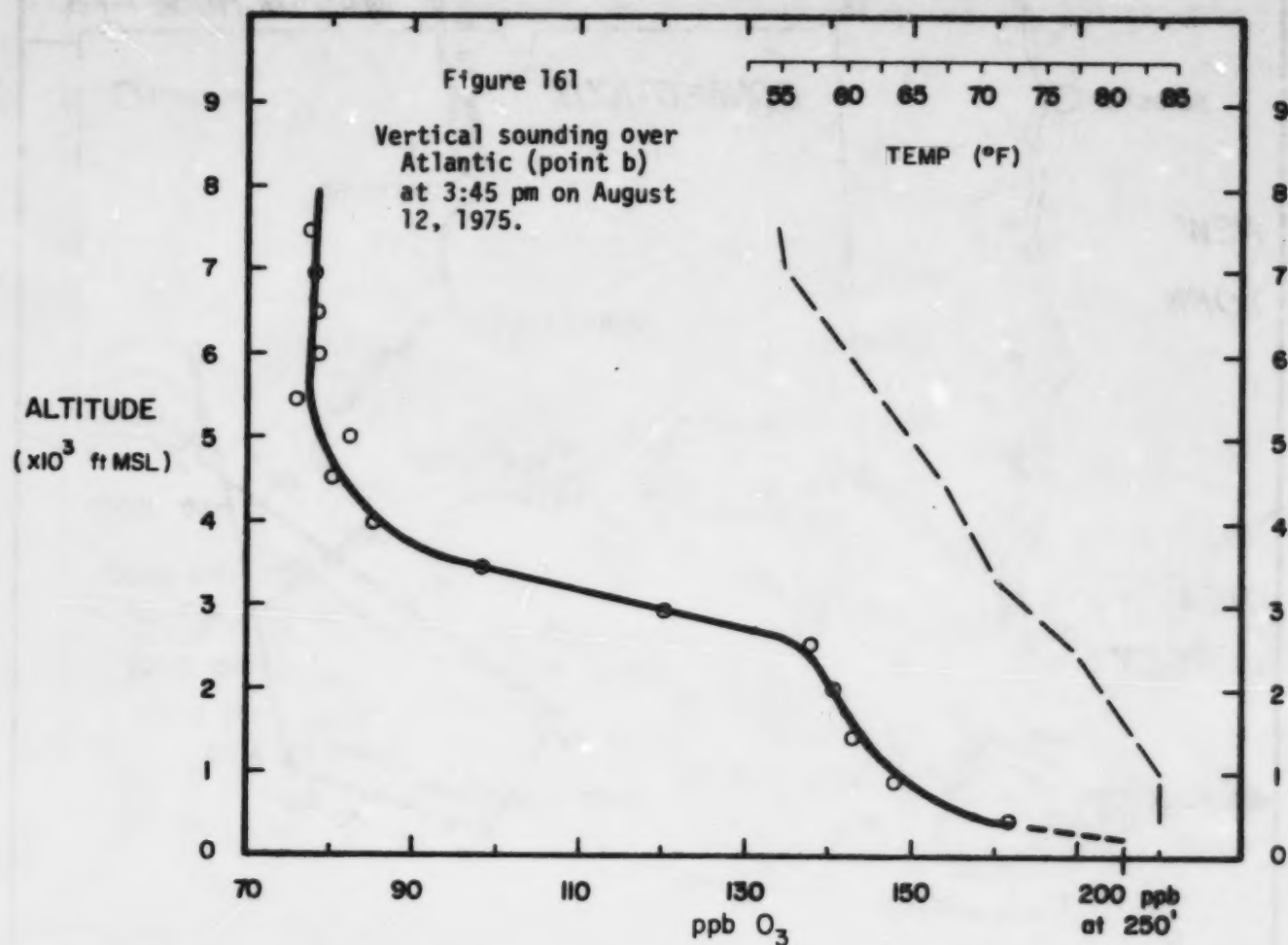
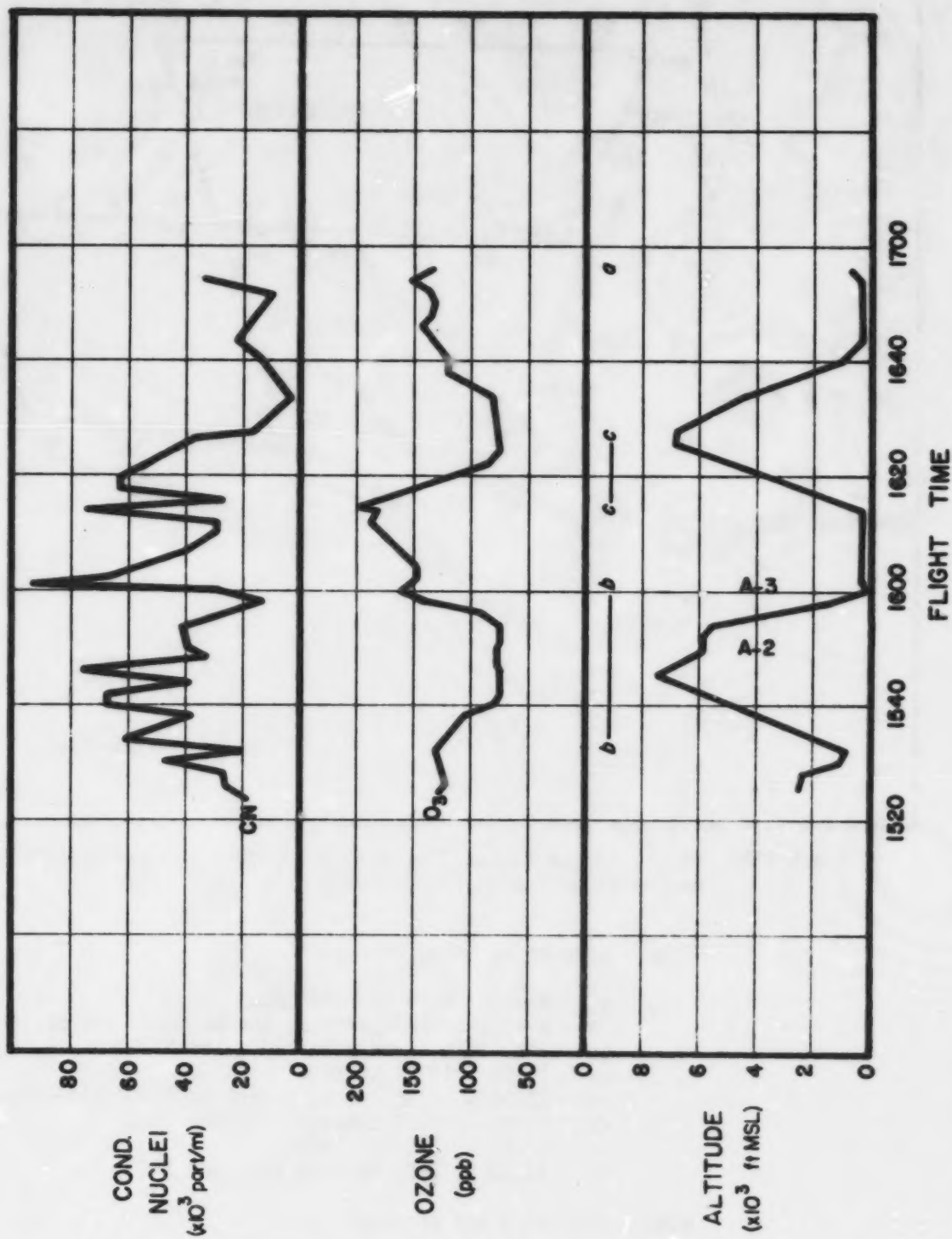


Figure 163. Plot of aircraft data recorded during flight #37 on August 12, 1975.



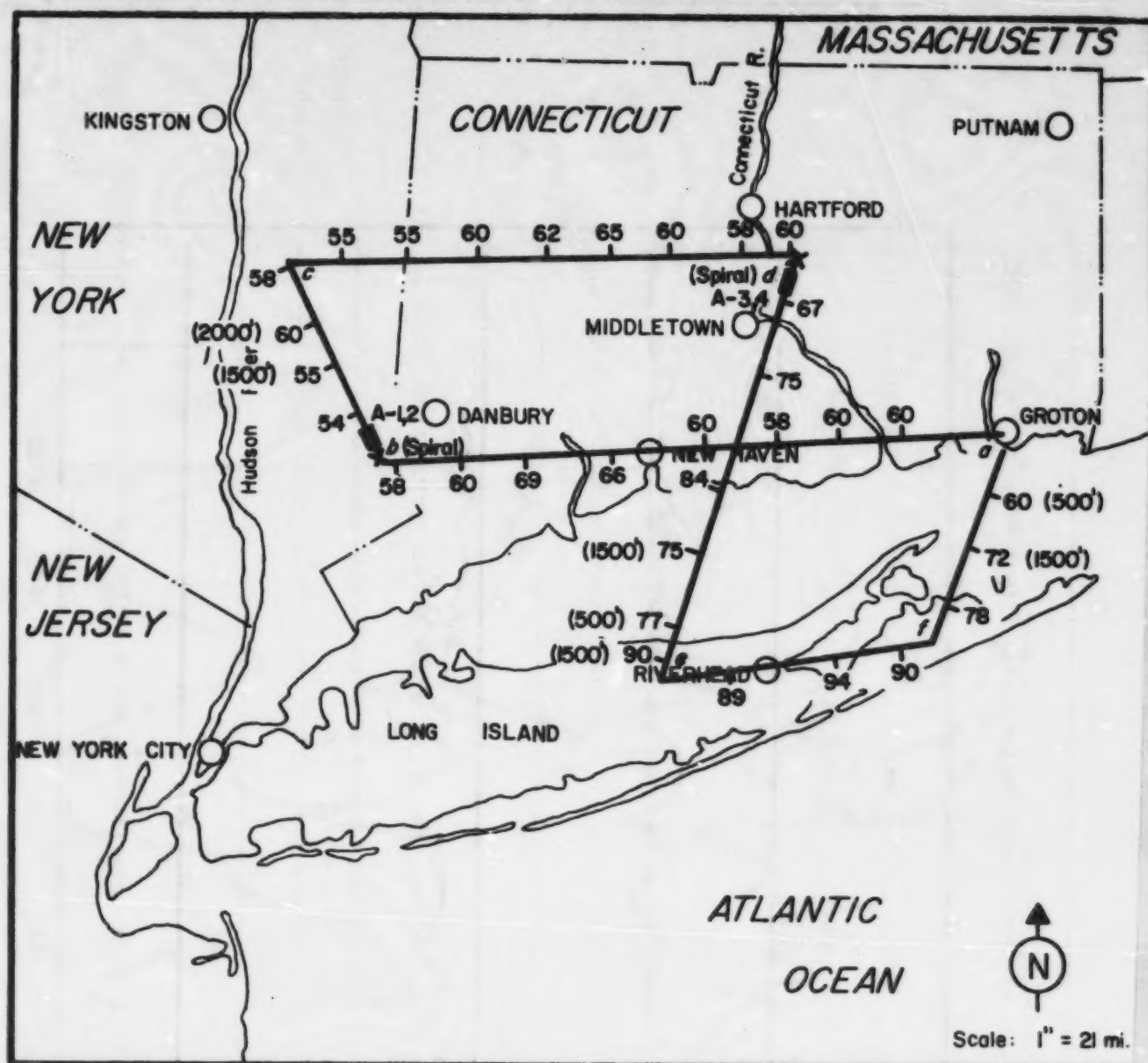


Figure 164. Flight #38 on August 13, 1975, with ozone concentrations (ppb) marked at points along the route.

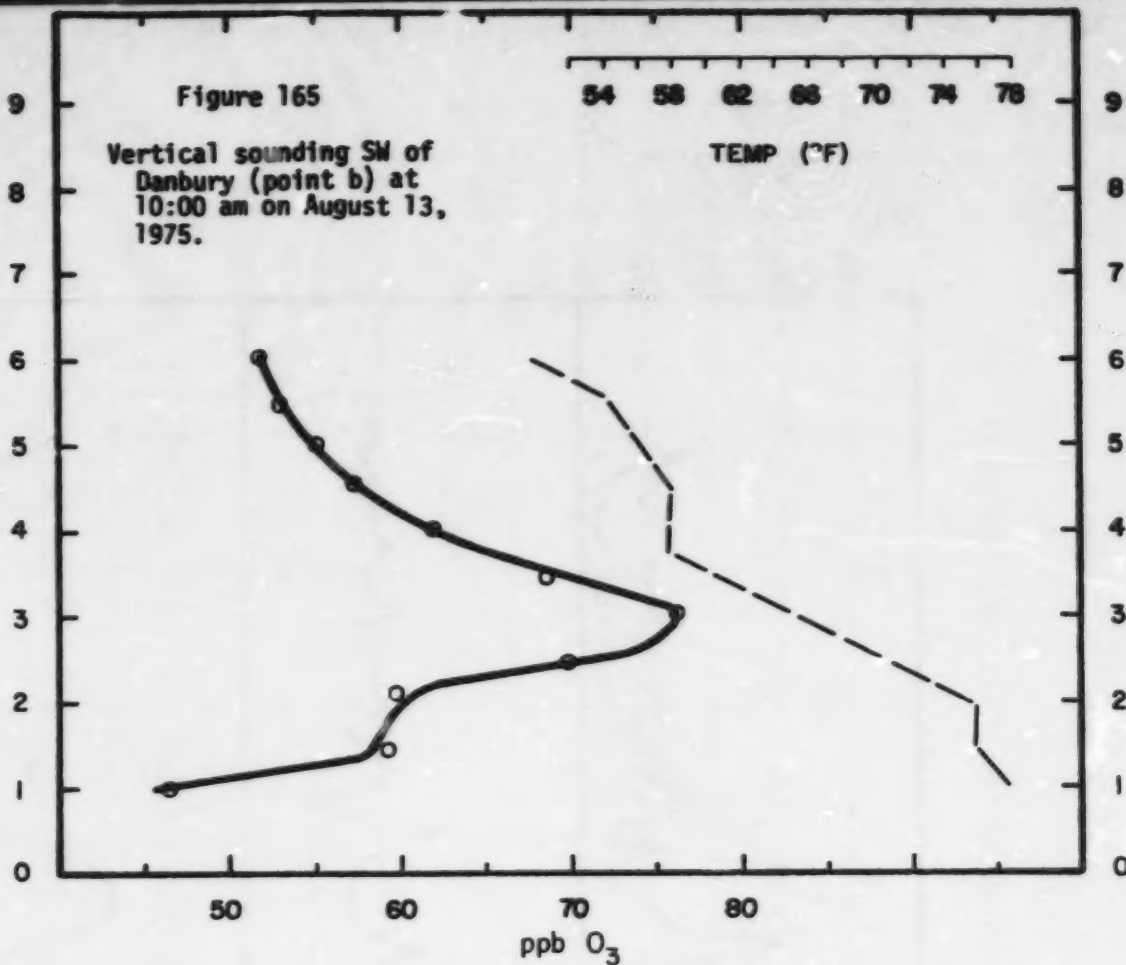
TIME: 9:00 AM to 12:20 PM

Leg ab: 9:00 - 9:40 at 1500' MSL
 b: 9:41 - 10:12 spiral ascent to 6000' and descent to 1000'
 bc: 10:13 - 10:24 between 1500' and 2000'
 cd: 10:25 - 10:54 at 2000'
 d: 10:55 - 11:25 spiral ascent to 7000' and descent to 1000'
 de: 11:26 - 11:50 between 500' and 1500'
 ef: 11:51 - 12:02 at 1500'
 fa: 12:03 - 12:20 between 500' and 1500'

WIND: 020° at 5 mph (Groton)

WEATHER: Sunny and warm

ALTITUDE
($\times 10^3$ ft MSL)



ALTITUDE
($\times 10^3$ ft MSL)

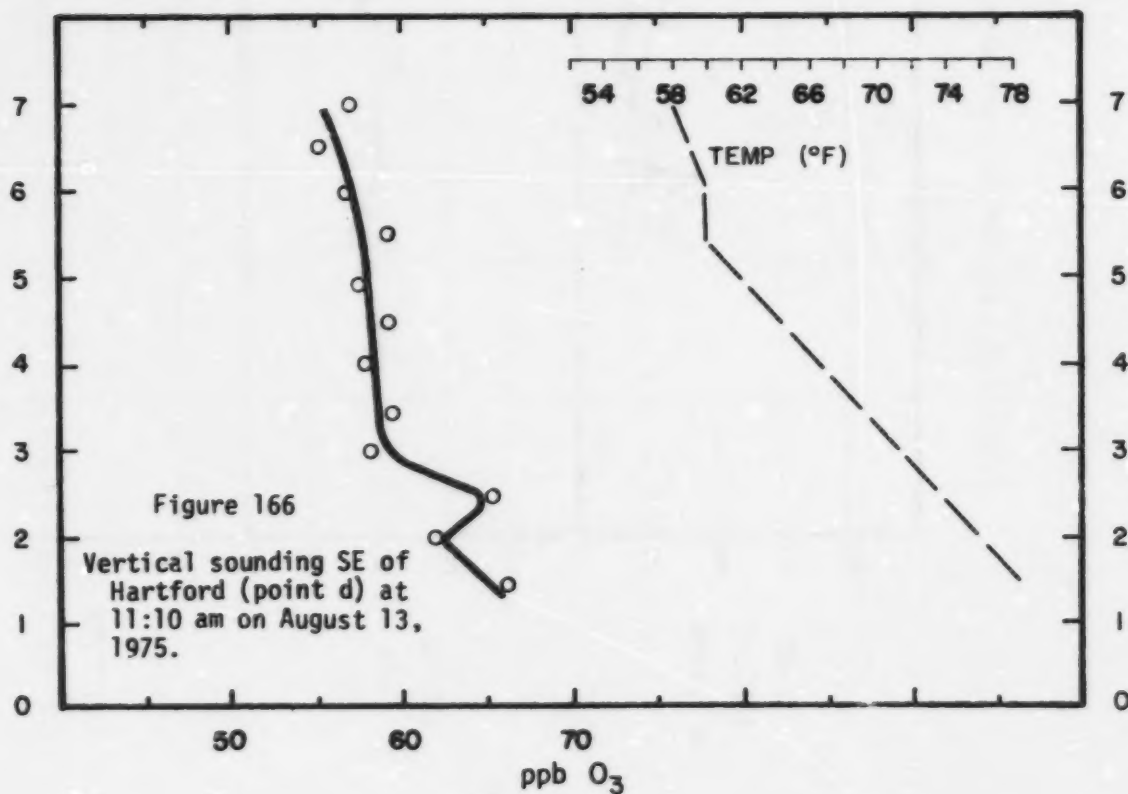


Figure 167. Plot of aircraft data recorded during flight #38 on August 13, 1975.

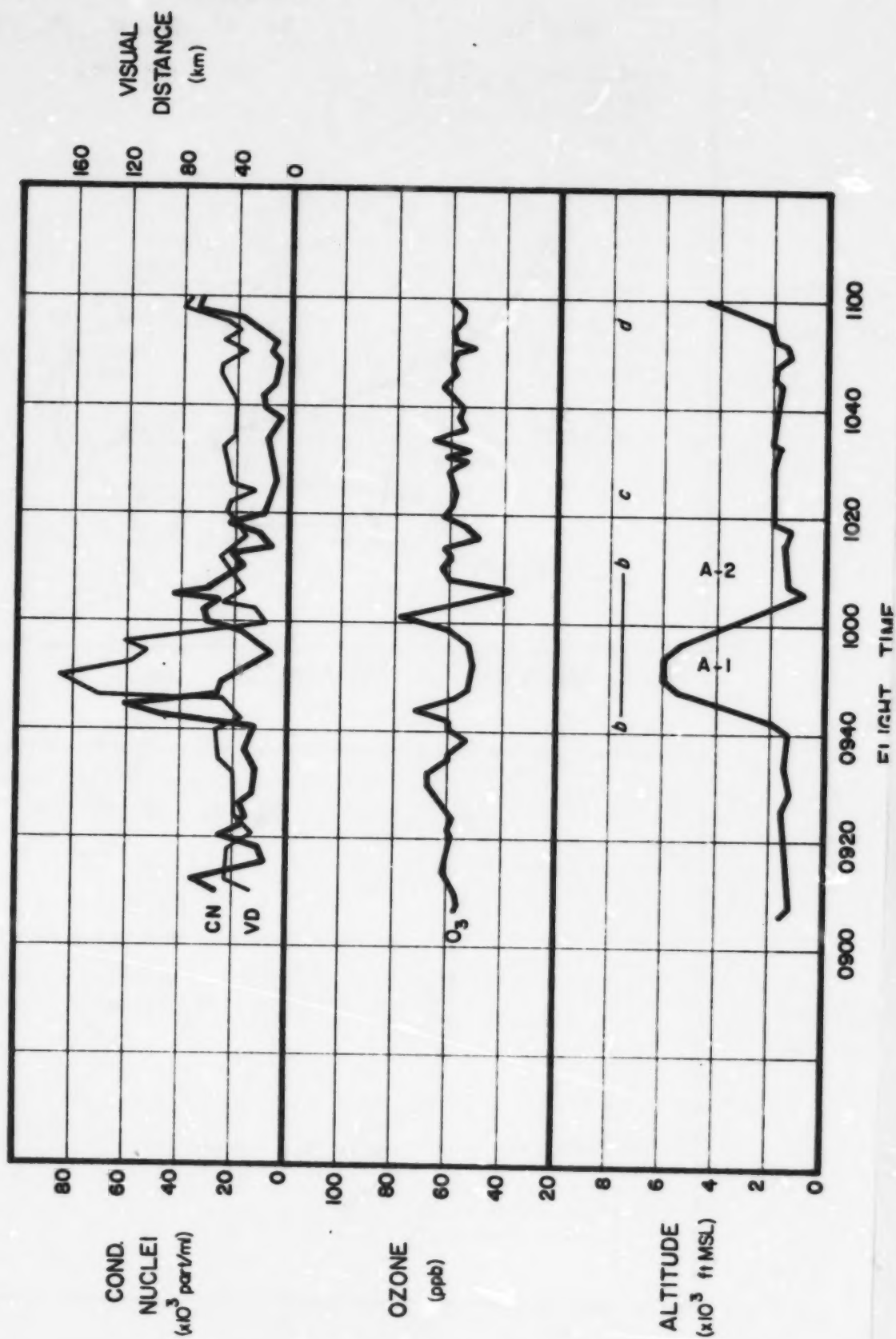
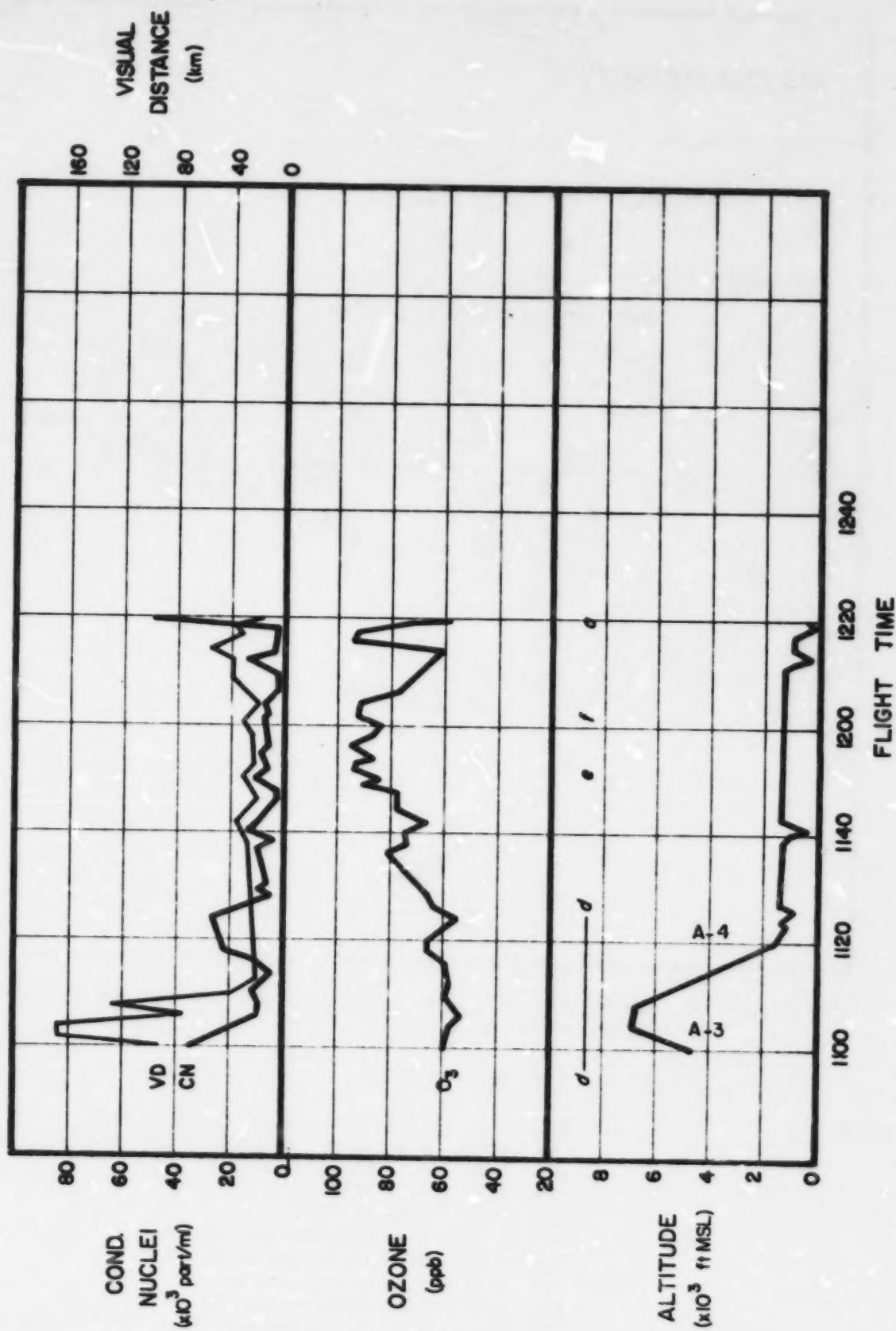


Figure 167. Continued



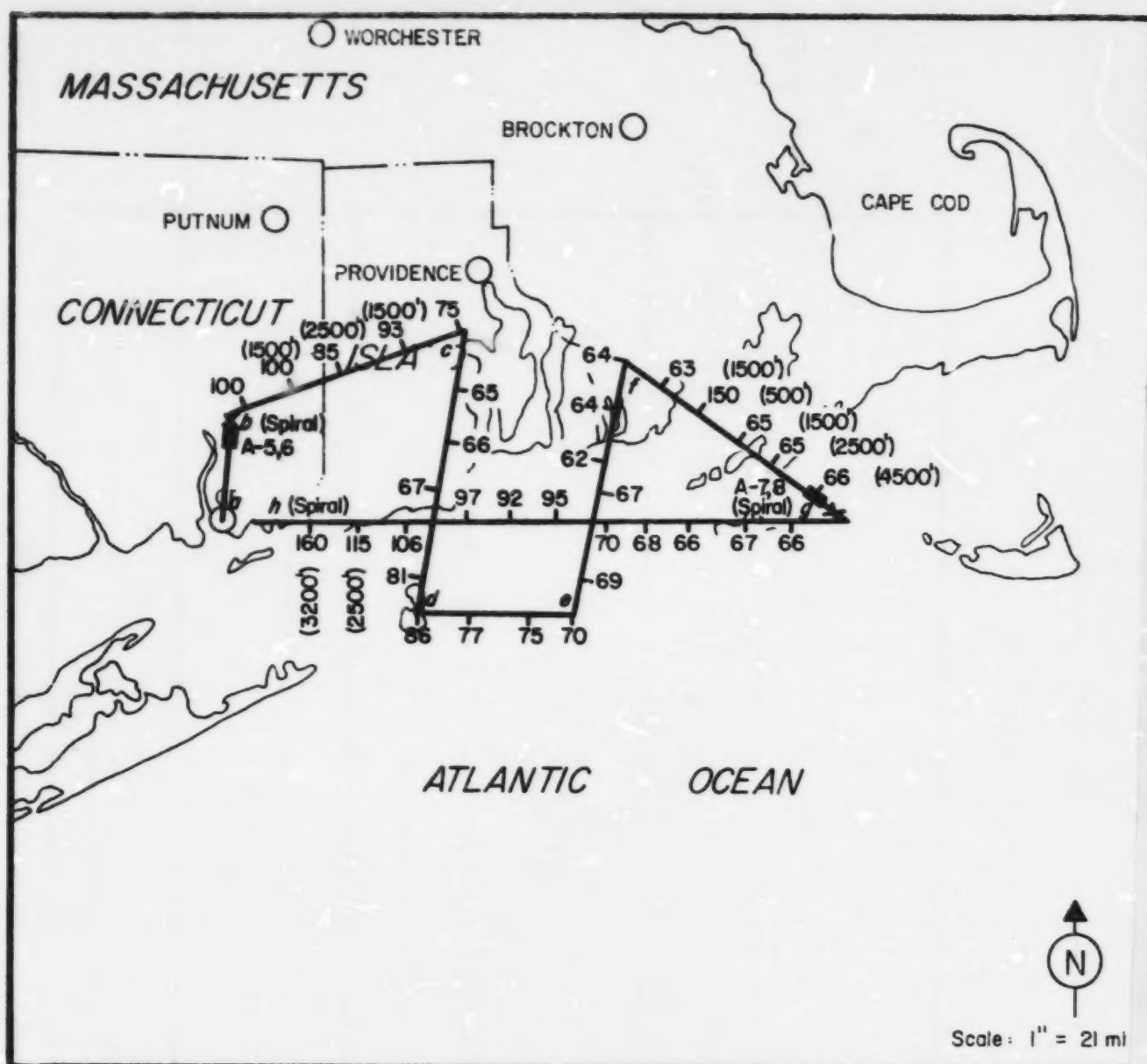


Figure 168. Flight #39 on August 13, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 3:40 PM to 6:30 PM

Leg ab: 3:40 - 4:00 angle ascent to 8000' MSL
 b: 4:01 - 4:15 spiral descent to 500'
 bc: 4:16 - 4:30 between 1500' and 2500'
 cd: 4:31 - 4:41 at 1500'
 de: 4:42 - 4:48 at 1500'
 ef: 4:49 - 5:04 between 300' and 1500'
 fg: 5:05 - 5:20 angle ascent to 6000'
 g: 5:21 - 5:40 spiral descent to 1000'
 gh: 5:41 - 6:10 between 300' and 4000'
 h: 6:11 - 6:30 spiral descent from 4000' to landing

WIND: 220° at 10 mph (Groton)

WEATHER: Sunny and hot

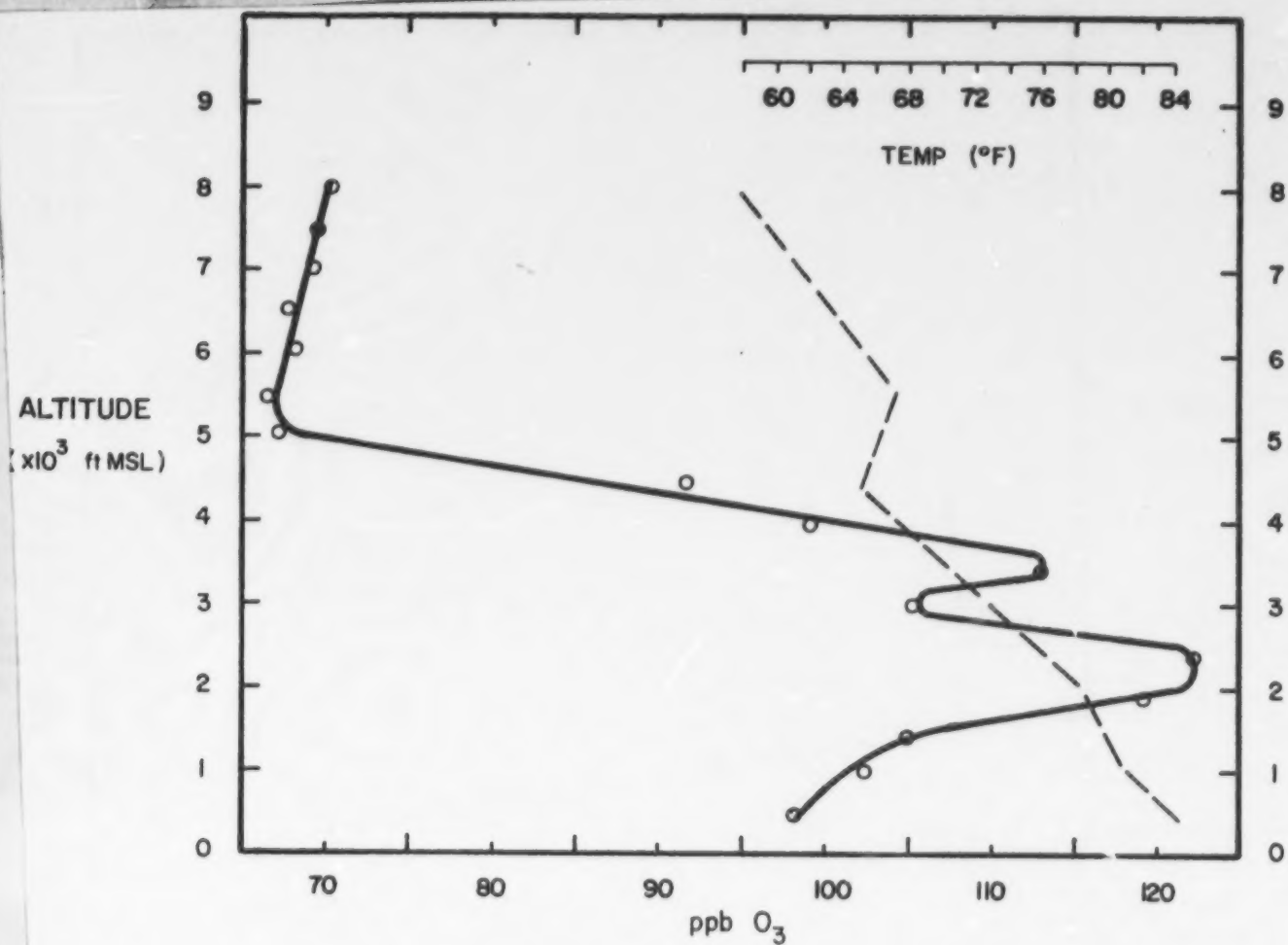


Figure 169. Vertical ozone and temperature profiles near Norwich (point b) at 4:05 pm on August 13, 1975.

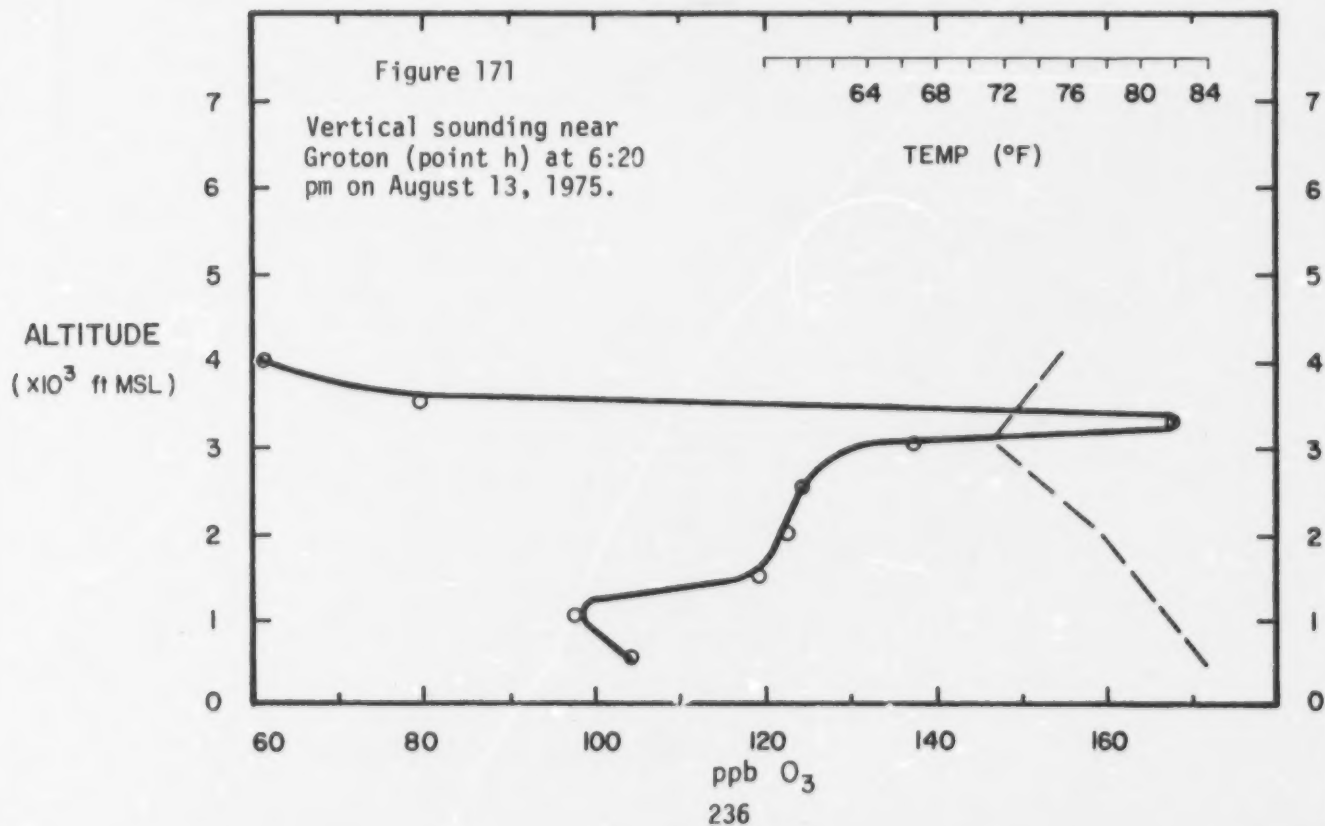
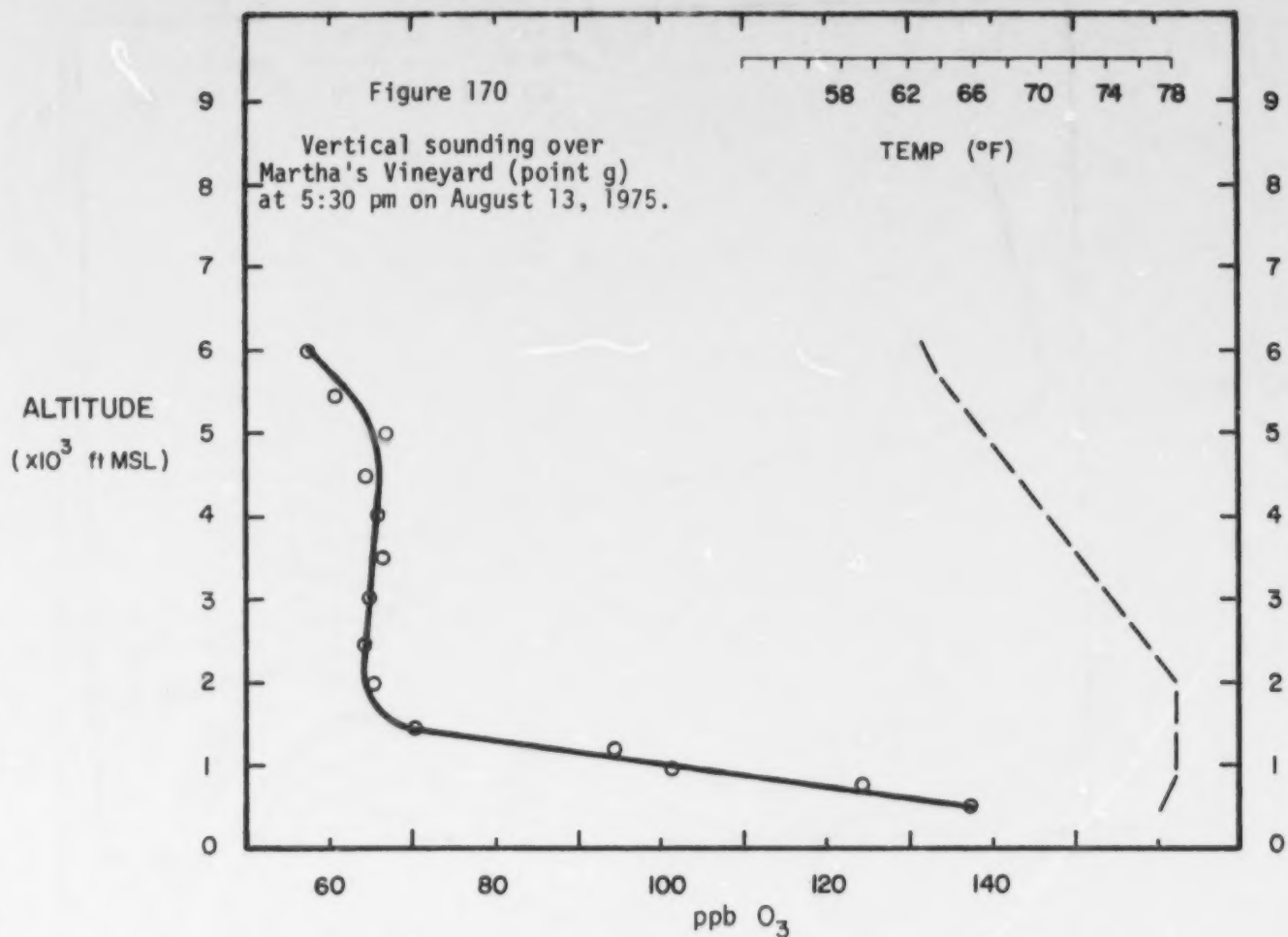
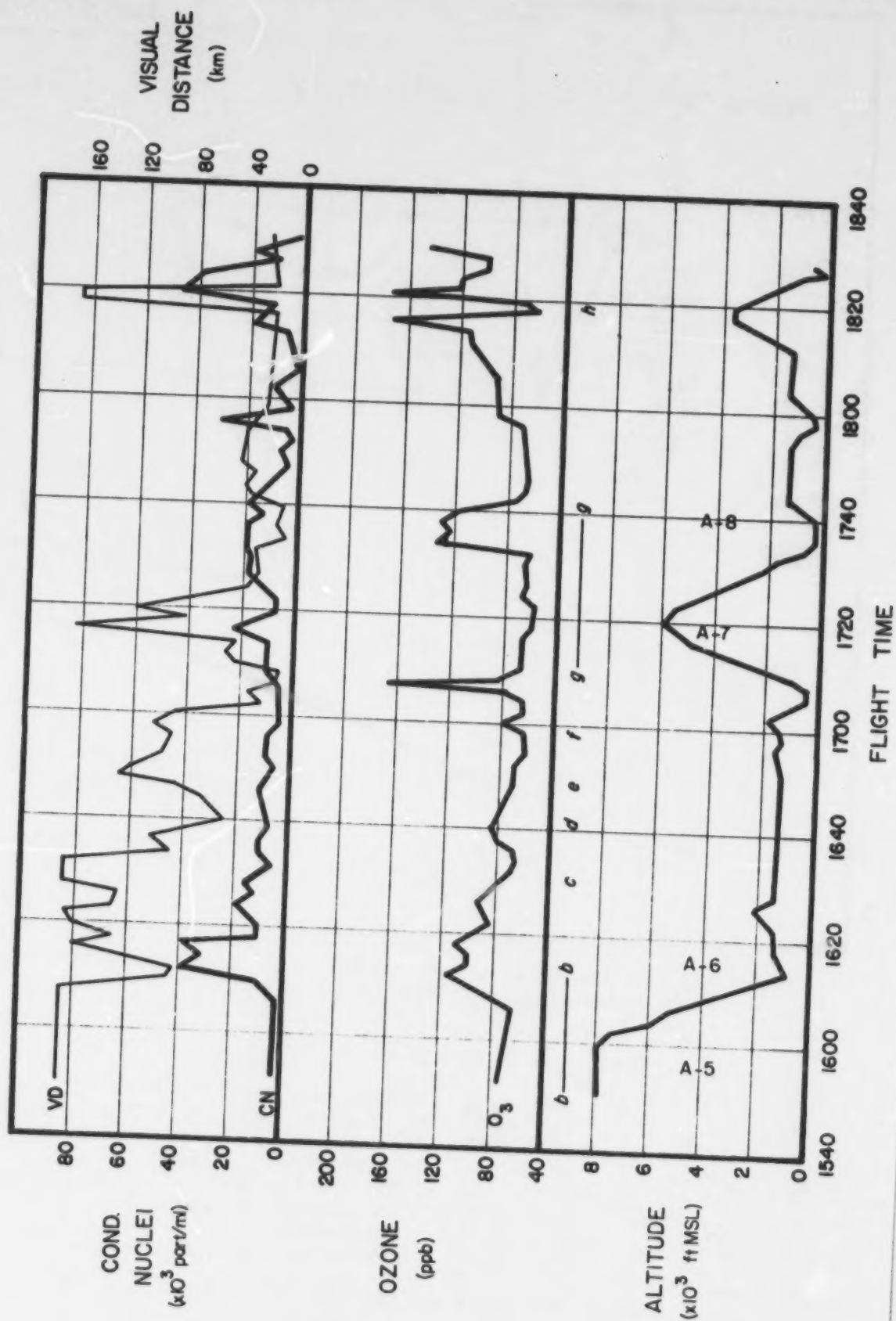


Figure 172. Plot of aircraft data recorded during flight #39 on August 13, 1975.



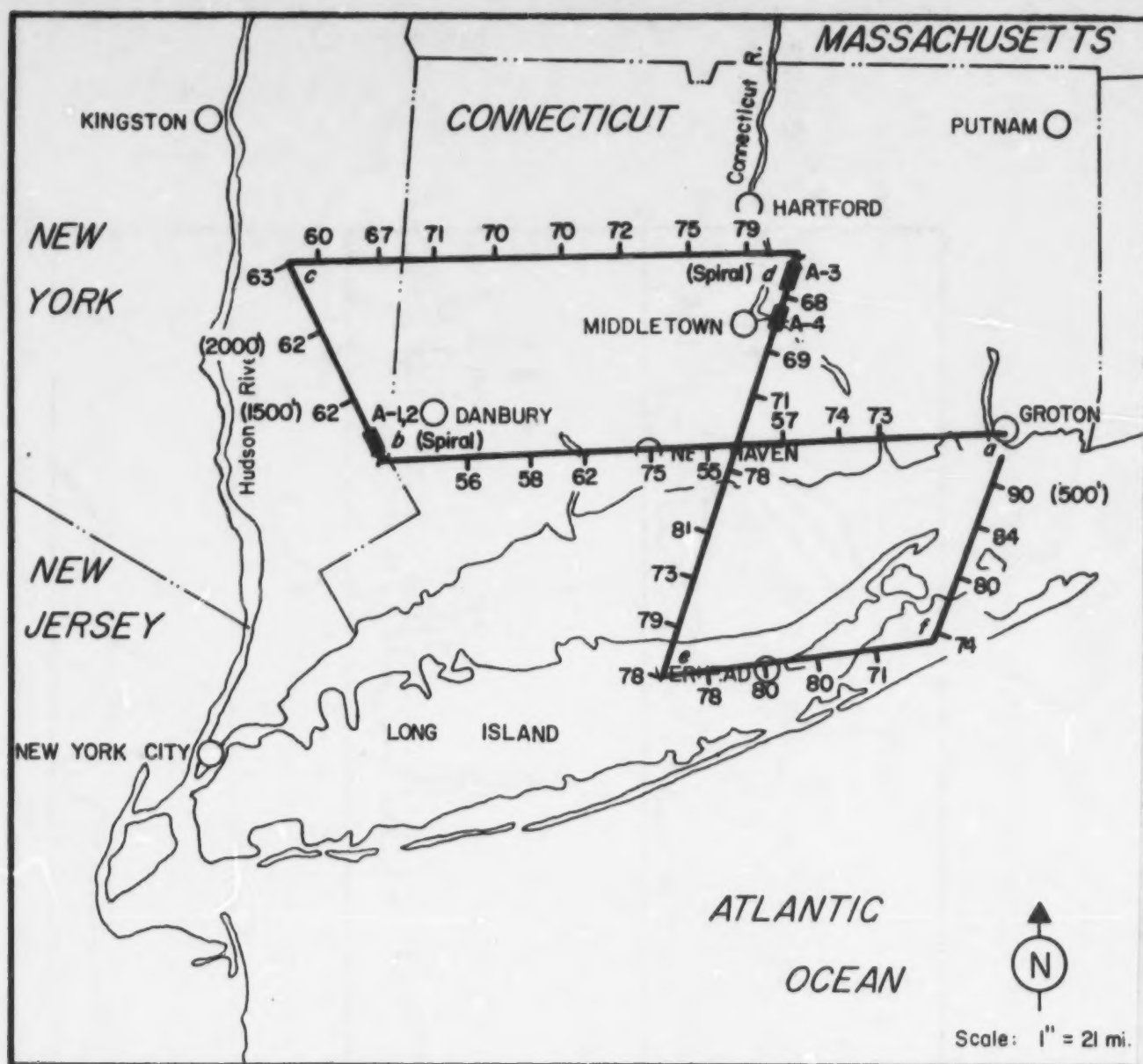


Figure 173. Flight #40 on August 14, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 9:35 AM to 1:00 PM

Leg ab: 9:35 - 10:14 between 1000' and 2000' MSL
 b: 10:15 - 10:50 spiral ascent to 9000' and descent to 1000'
 bc: 10:51 - 11:03 at 1500'
 cd: 11:04 - 11:28 at 2000'
 d: 11:29 - 12:02 spiral ascent to 9000' and descent to 1000'
 de: 12:03 - 12:27 between 500' and 1500'
 ef: 12:28 - 12:40 at 1500'
 fa: 12:41 - 1:00 between 500' and 1500'

WIND: 260° at 15 mph (Groton)

WEATHER: Partly cloudy and warm

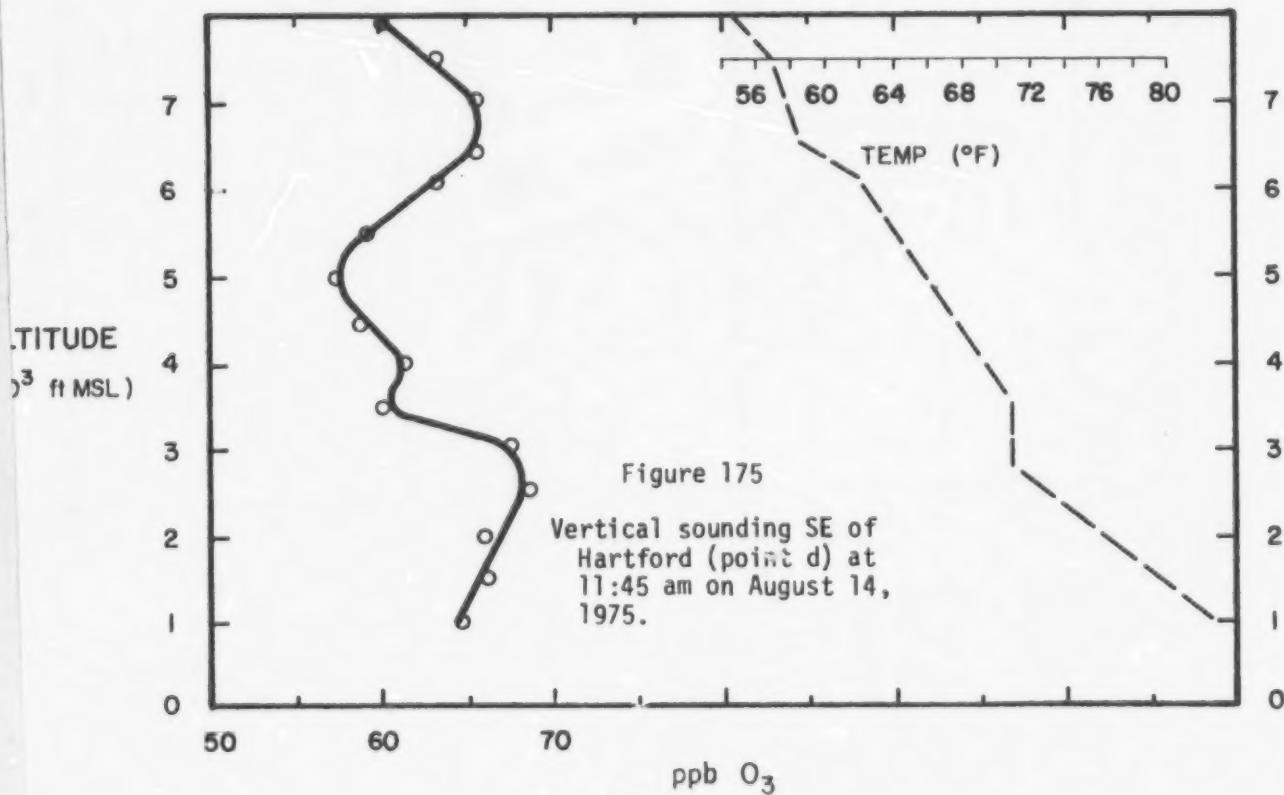
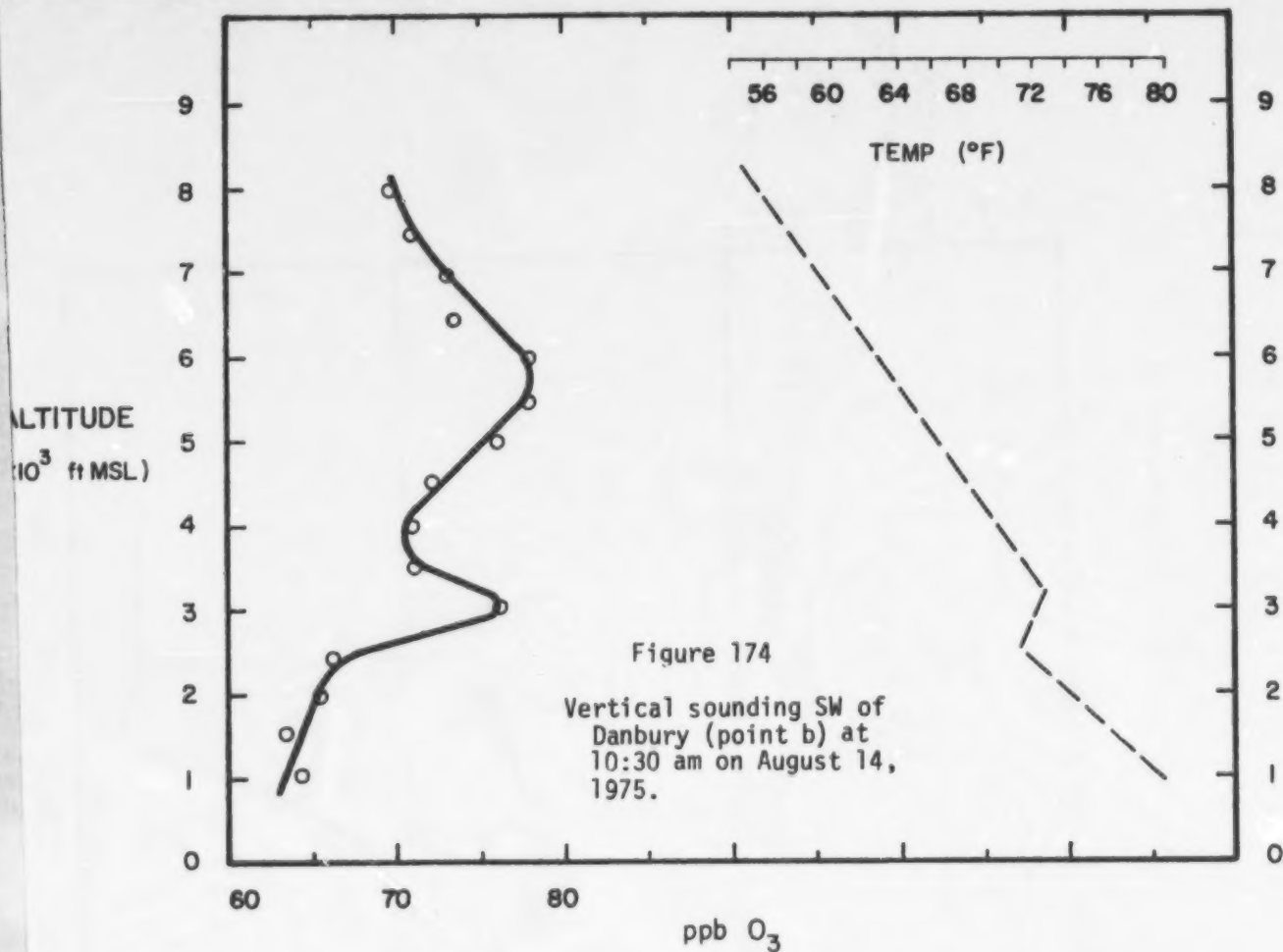


Figure 176. Plot of aircraft data recorded during flight #40 on August 14, 1975.

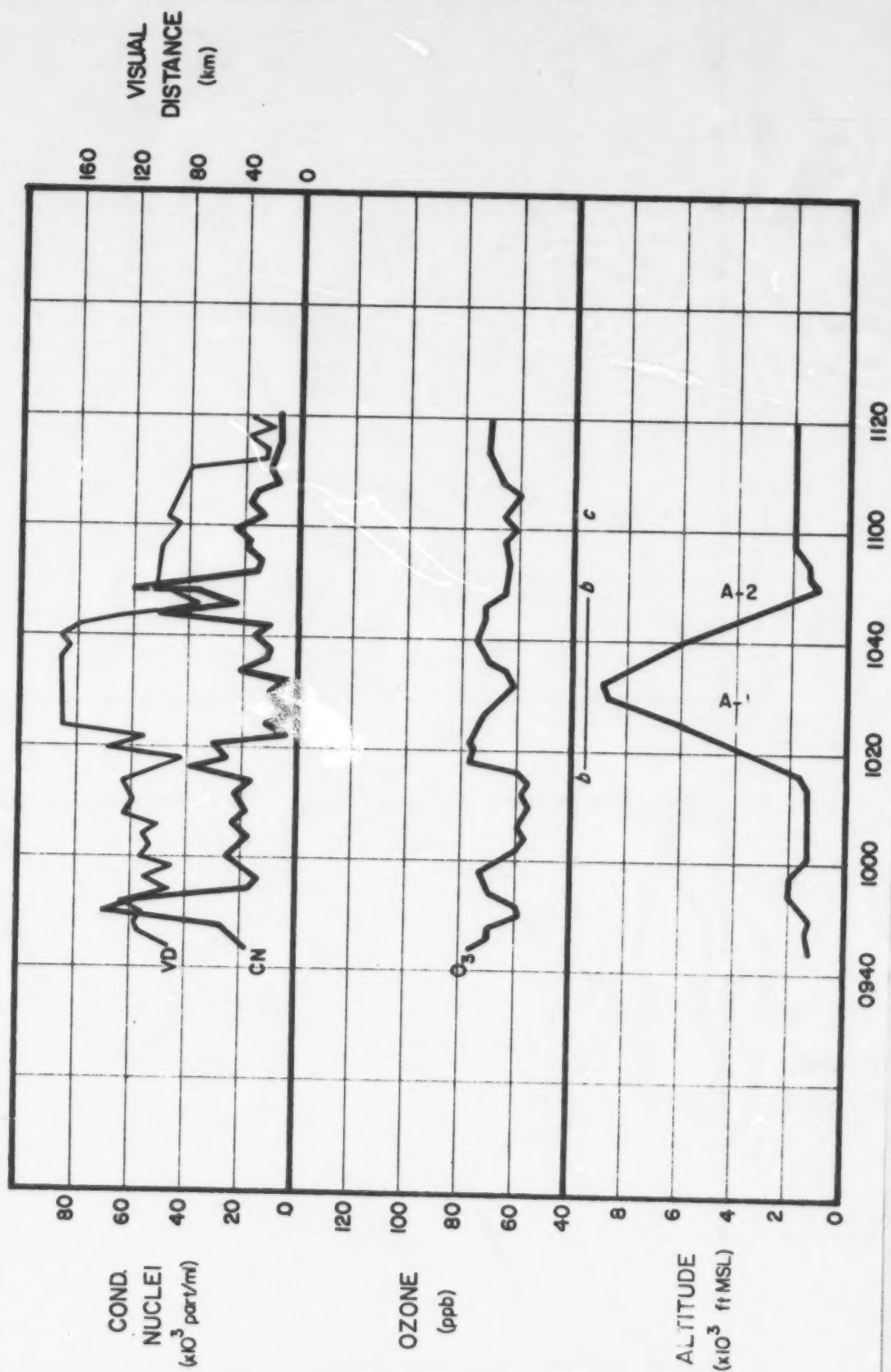
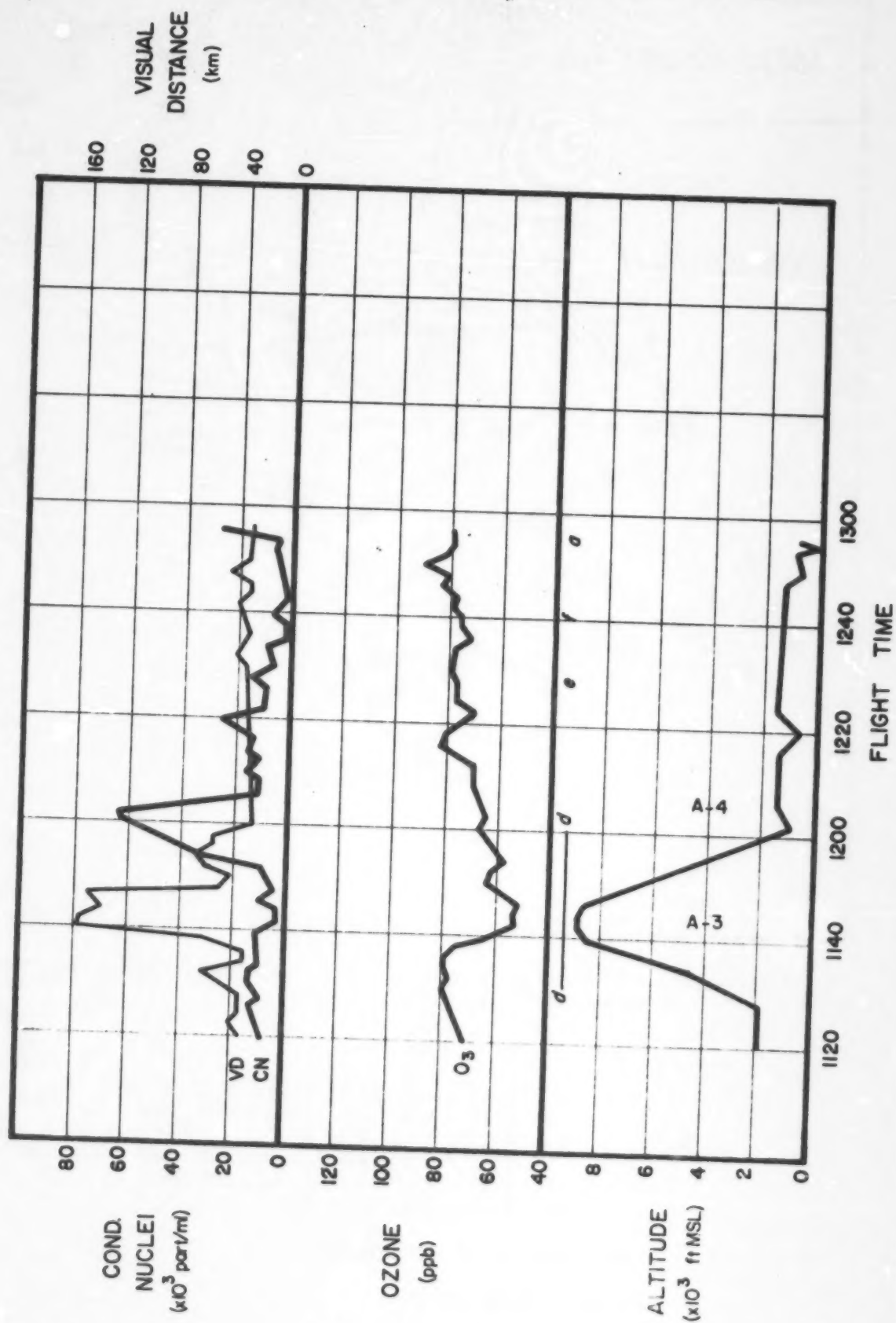


Figure 176. Continued



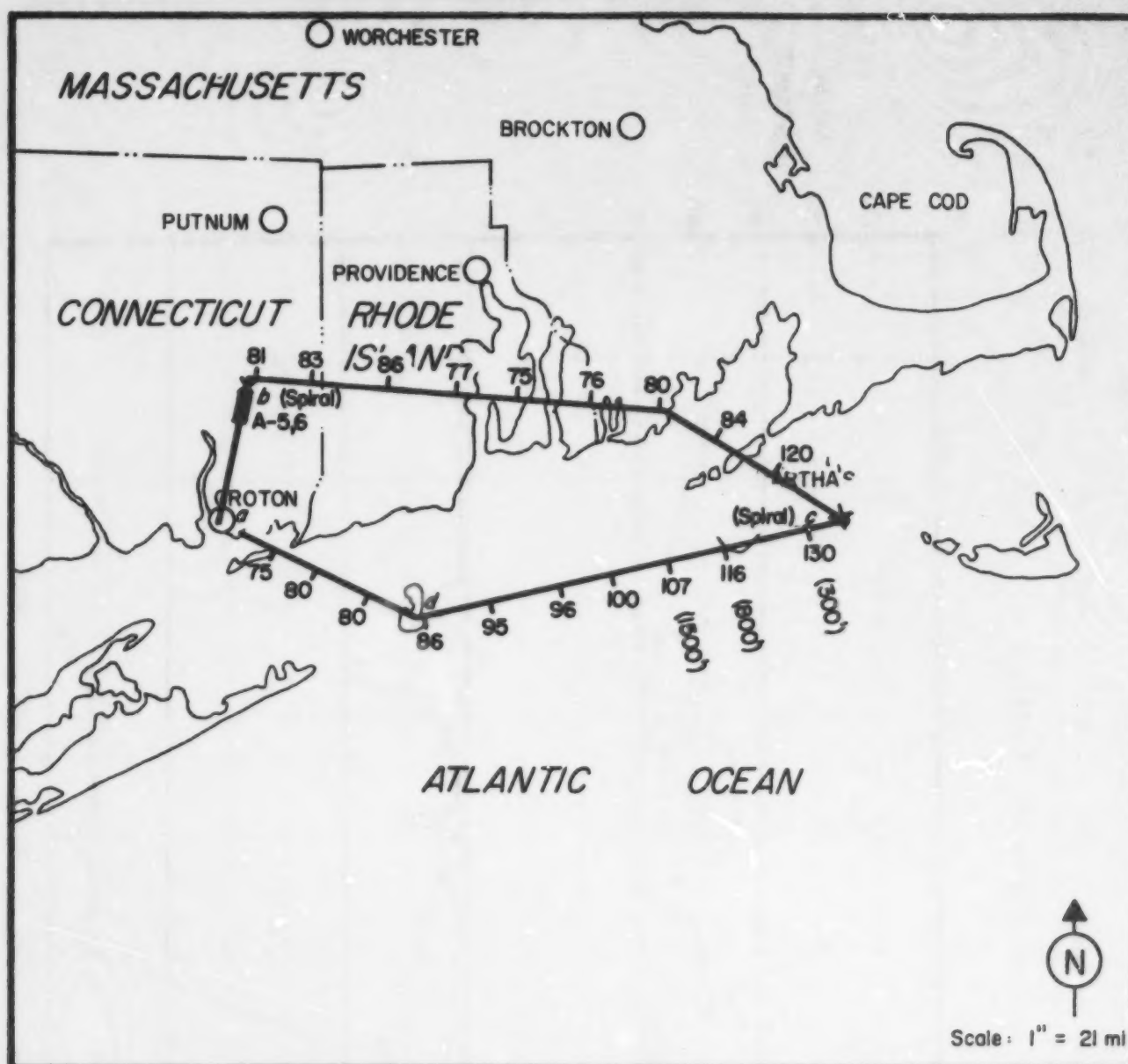


Figure 177. Flight #41 on August 14, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 3:45 PM to 6:45 PM

Leg ab: 3:45 - 4:15 angle ascent to 9000' MSL
 b: 4:16 - 4:32 spiral descent to 1000'
 bc: 4:33 - 5:12 at 1500'
 c: 5:13 - 5:50 spiral ascent to 7000' and descent to 300'
 cd: 5:51 - 6:20 between 300' and 1500'
 da: 6:21 - 6:45 at ~ 1000'

WIND: 240° at 12 mph (Groton)

WEATHER: Sunny and hot

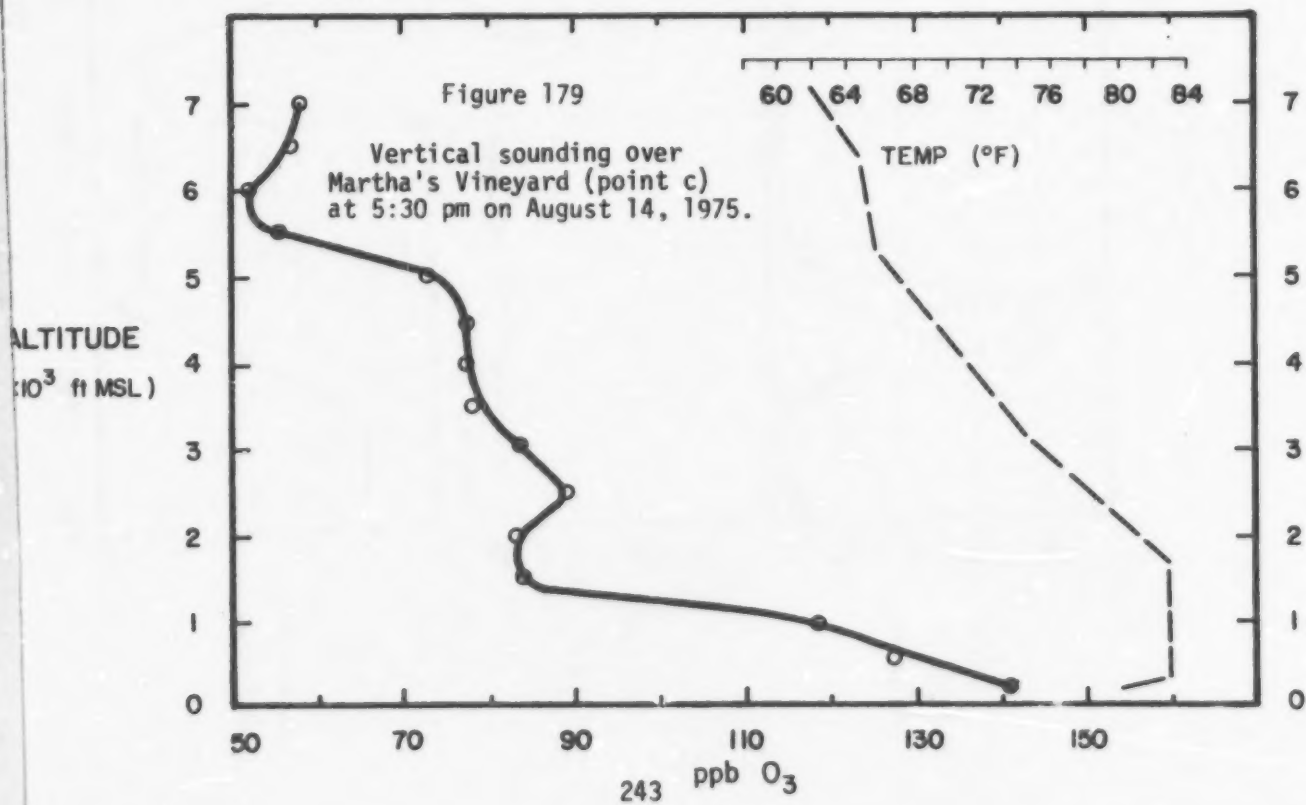
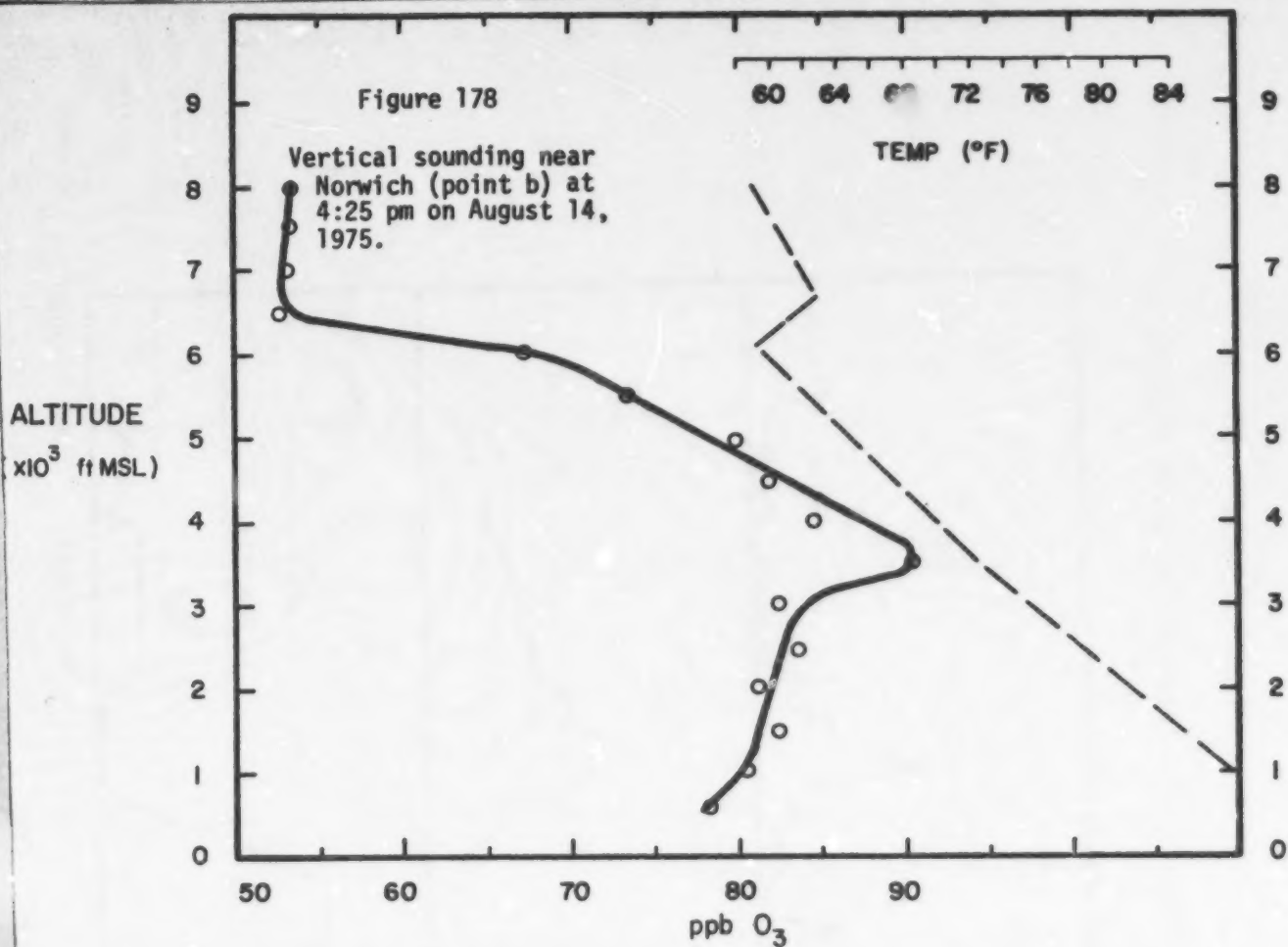
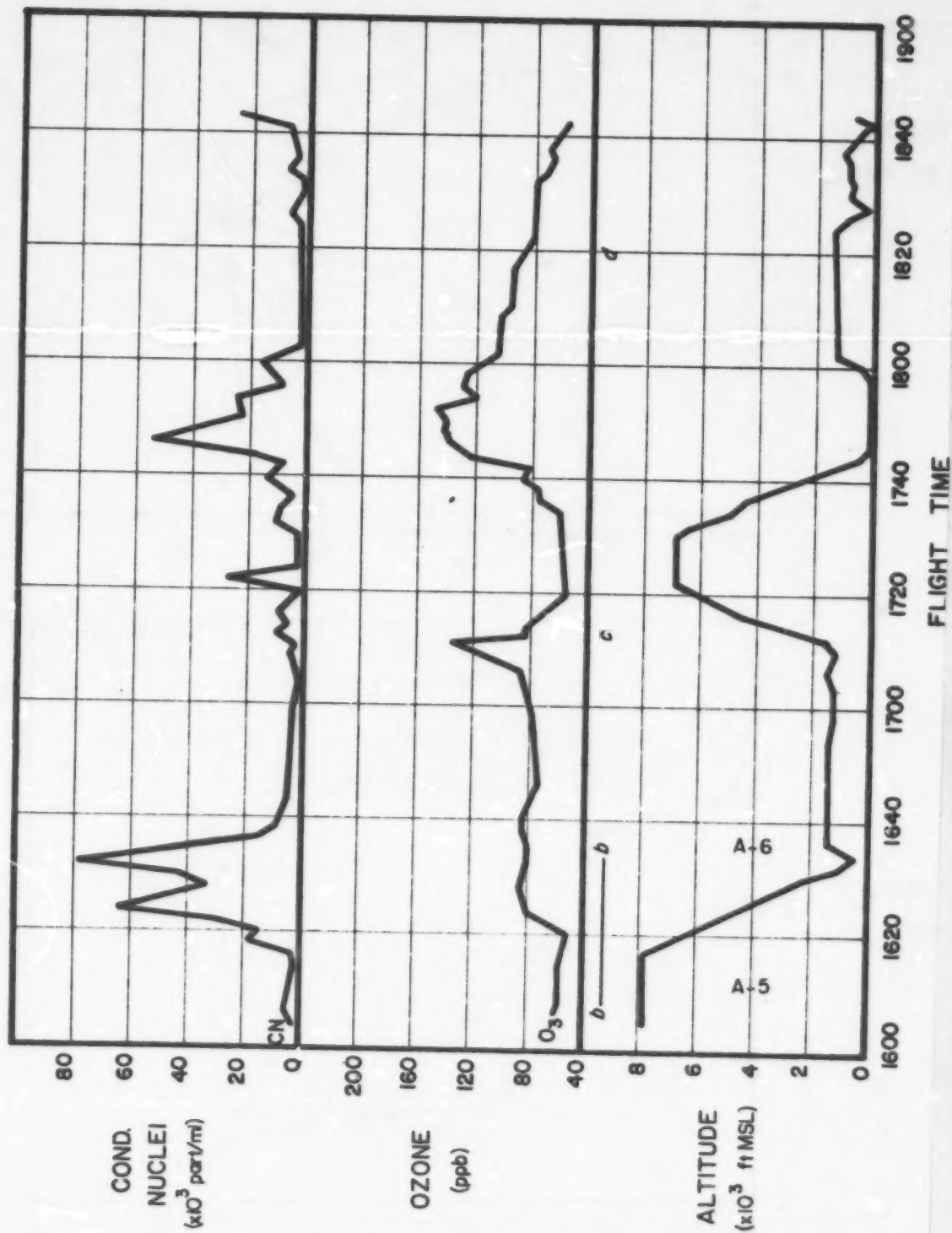


Figure 180. Plot of aircraft data recorded during flight #41 on August 14, 1975.



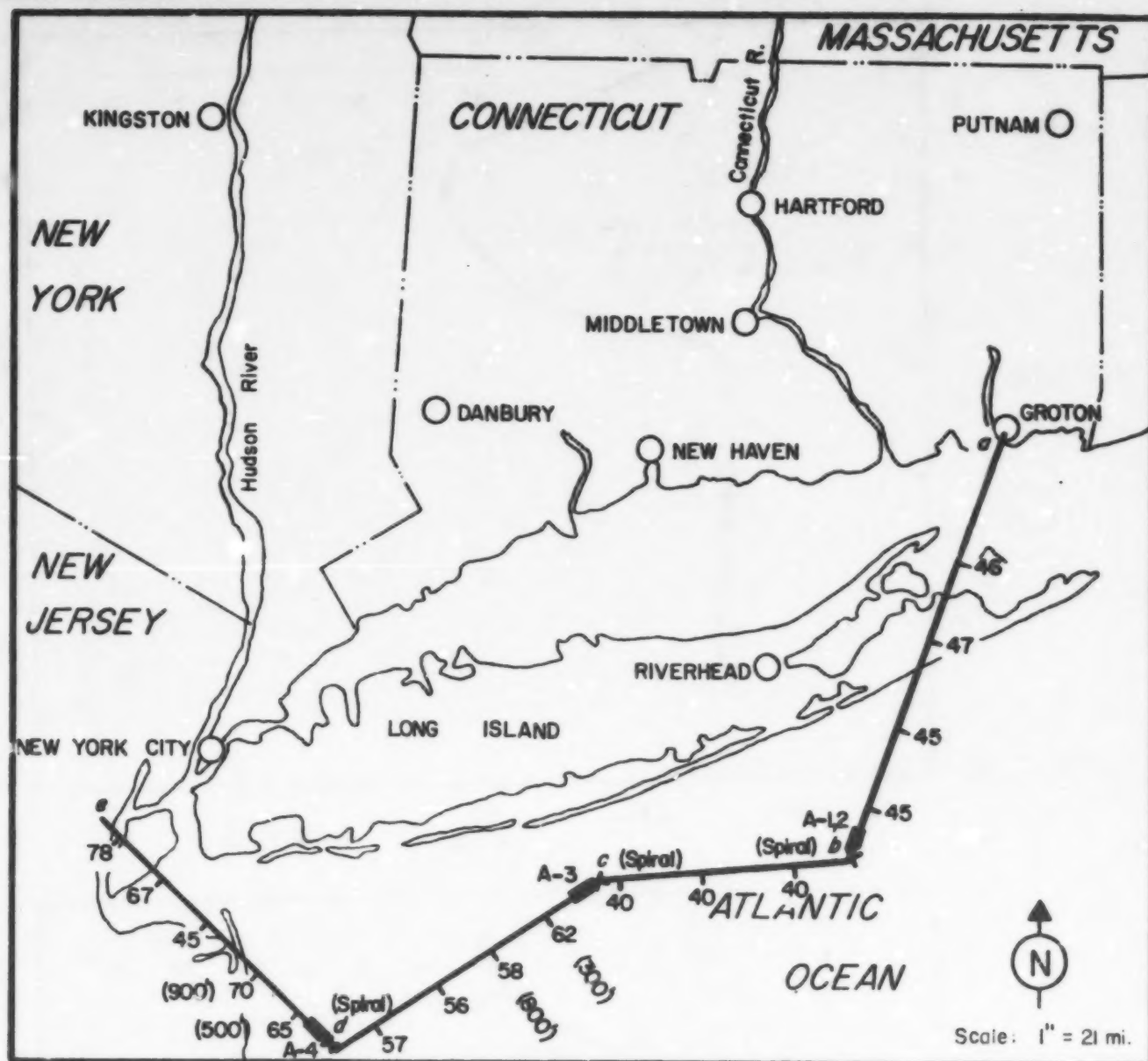


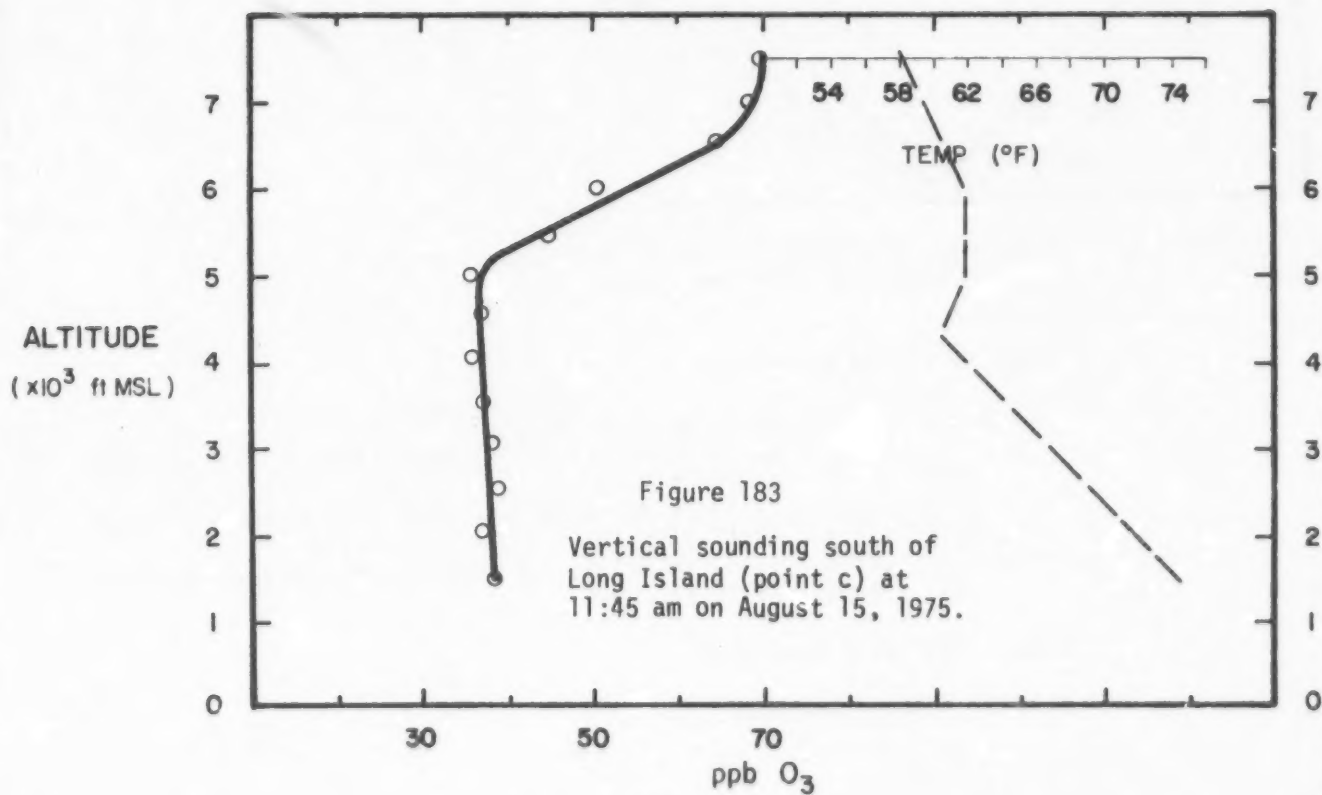
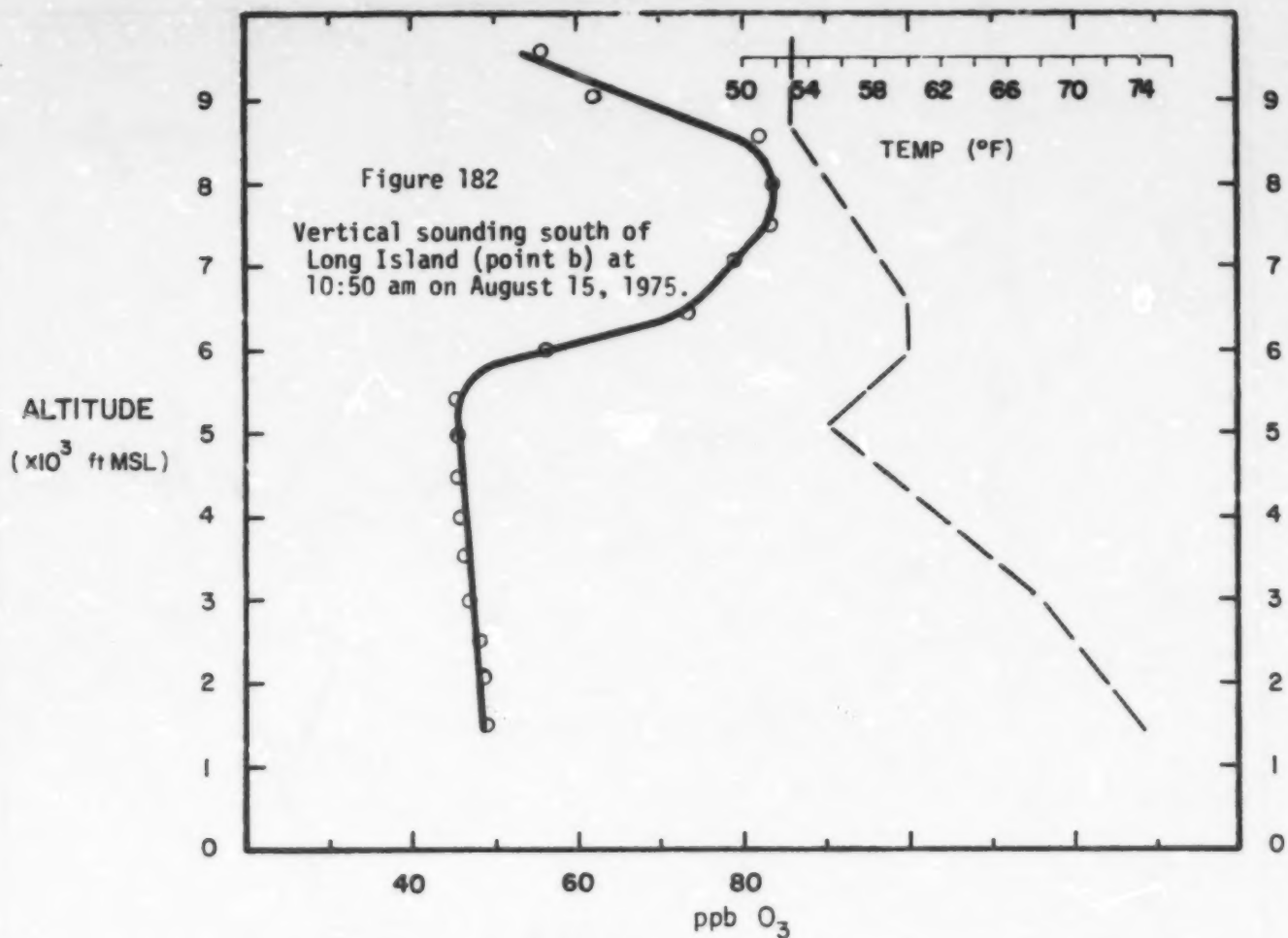
Figure 181. Flight #42 on August 15, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 10:15 AM to 1:20 PM

Leg ab: 10:15 - 10:42 at 1500' MSL
 b: 10:43 - 11:17 spiral ascent to 9500' and descent to 2000'
 bc: 11:18 - 11:34 at 2000'
 c: 11:35 - 11:58 spiral ascent to 7500' and descent to 500'
 cd: 11:59 - 12:14 at ~ 1000'
 d: 12:15 - 12:43 spiral ascent to 8000' and descent to 1000'
 de: 12:44 - 1:20 at 1000'

WIND: 140° at 8 mph (JFK)

WEATHER: Sunny and warm



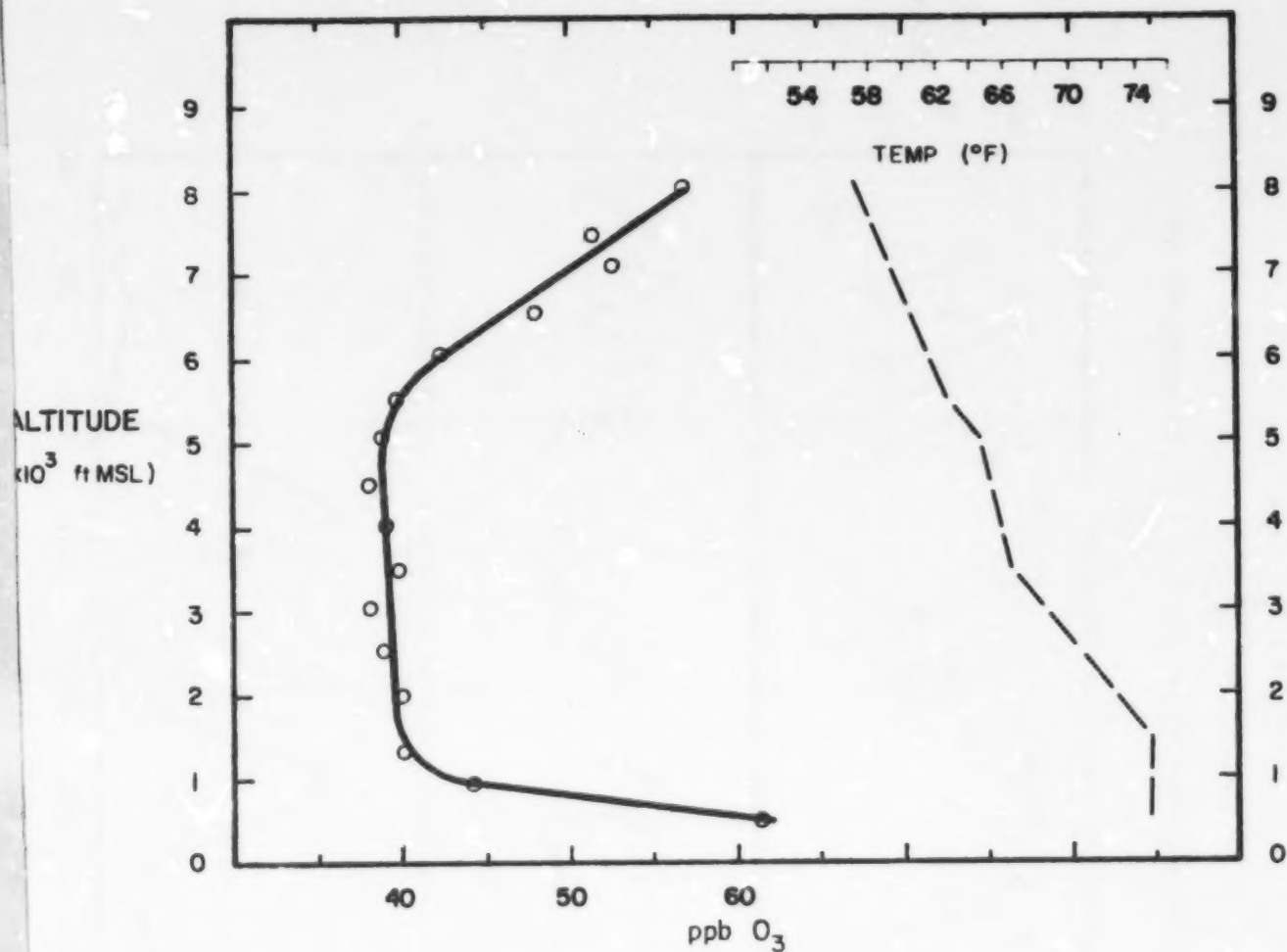
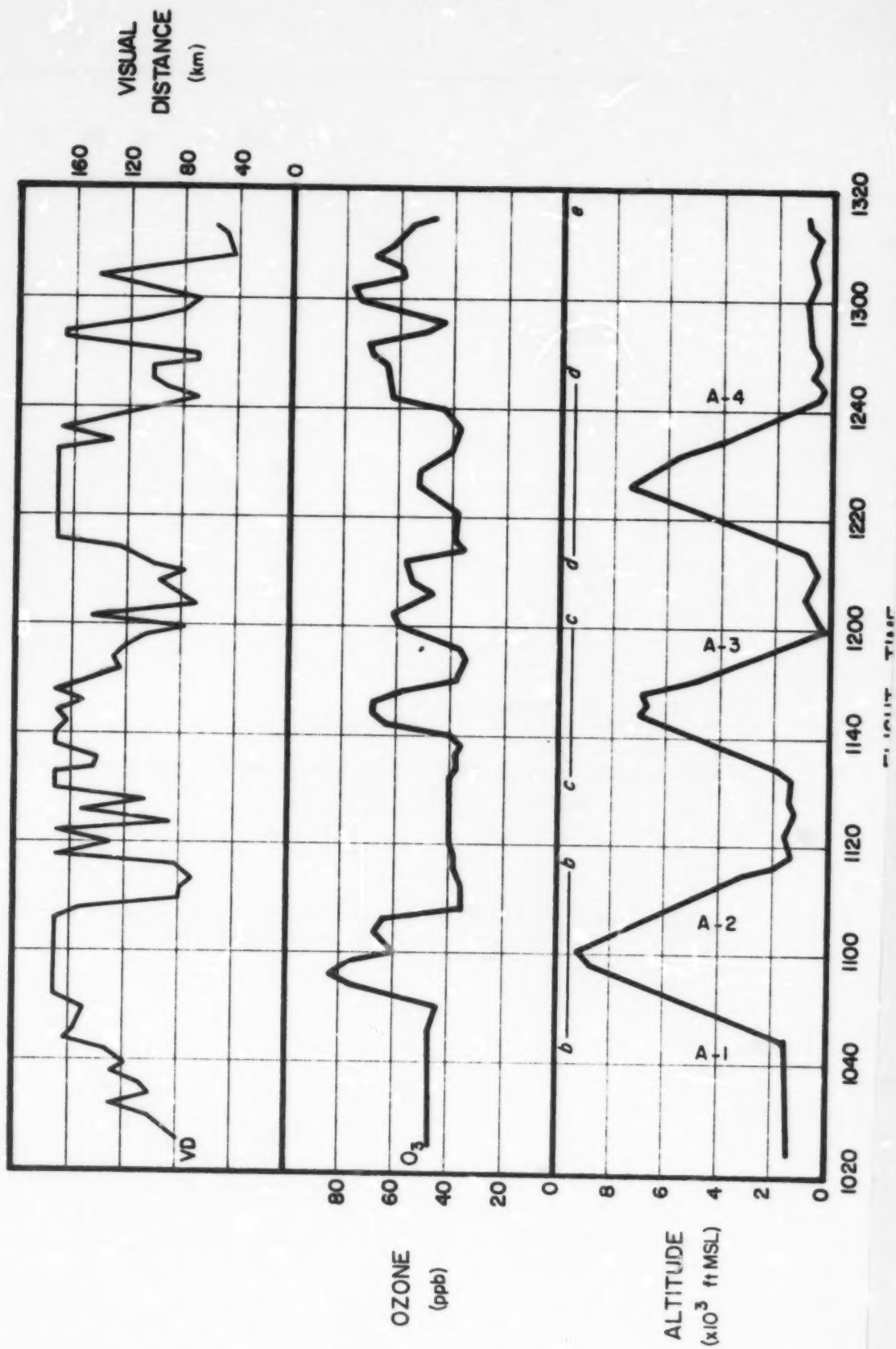


Figure 184. Vertical ozone and temperature profiles SE of New York City (point d) at 12:30 pm on August 15, 1975.

Figure 185. Plot of aircraft data recorded during flight #42 on August 15, 1975.



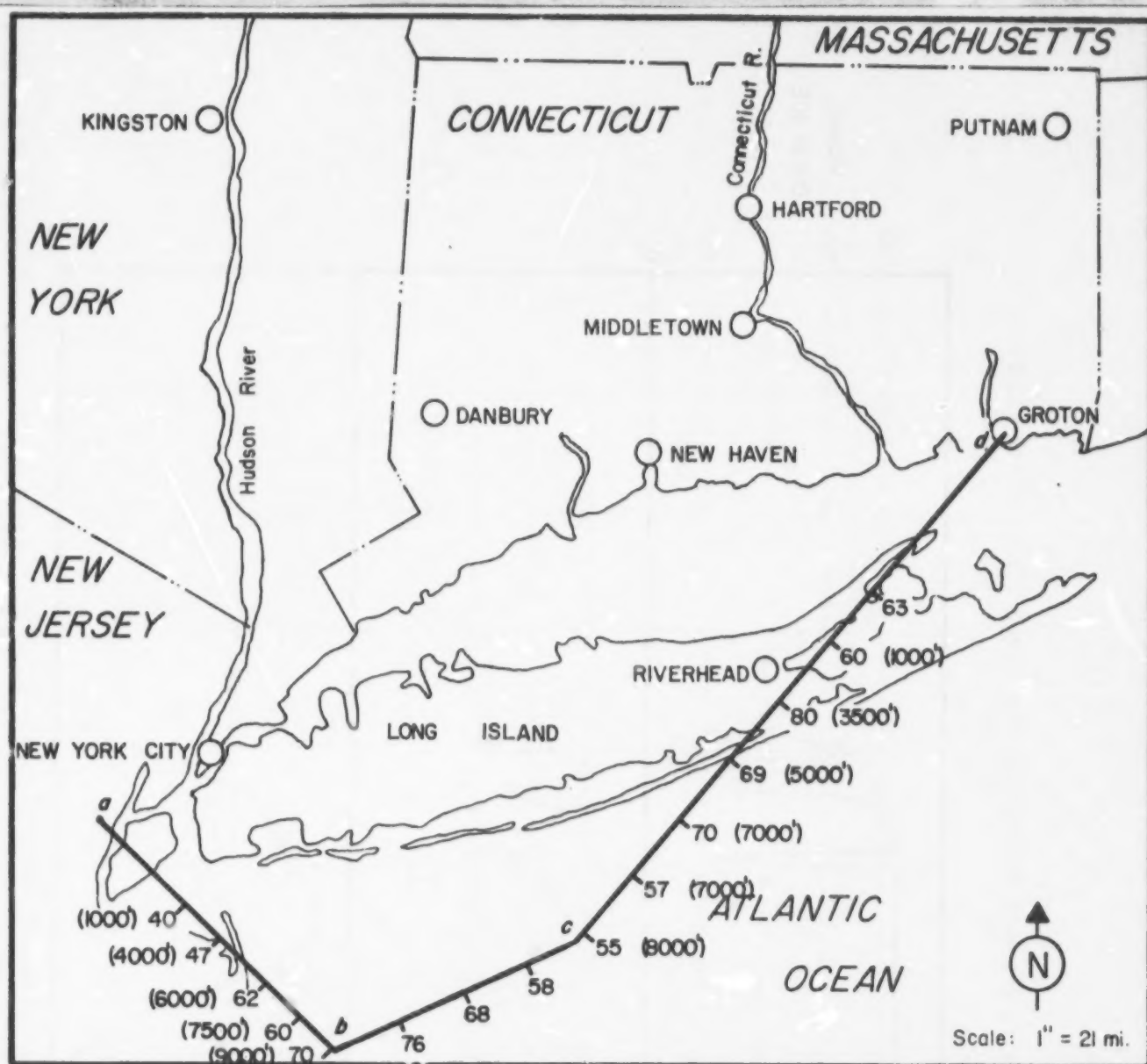


Figure 186. Flight #43 on August 15, 1975, with ozone concentrations (ppb) marked at points along the route.

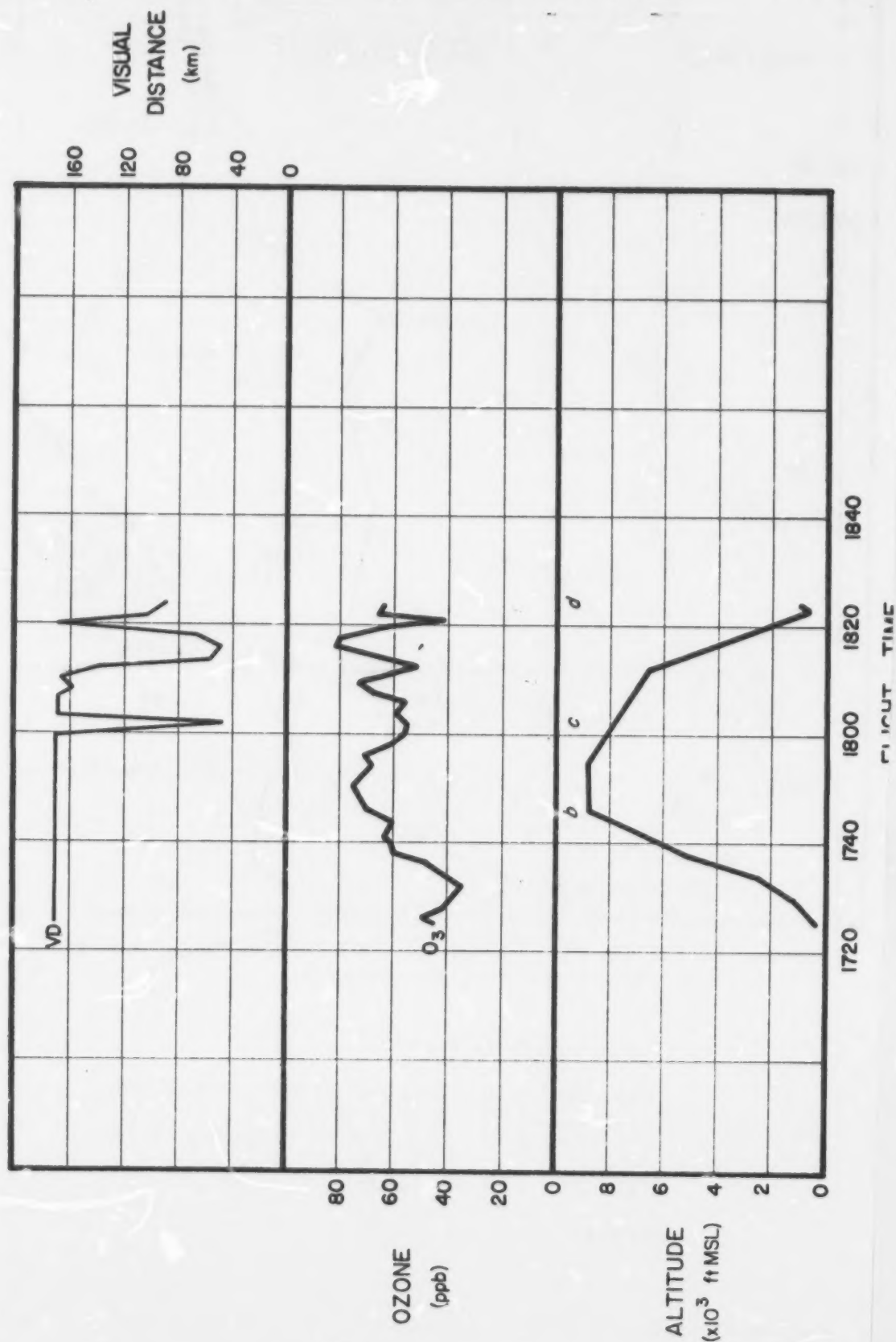
TIME: 5:00 PM to 6:30 PM

Leg ab: 5:00 - 5:48 angle ascent to 9000' MSL
 bc: 5:49 - 5:59 at 9000'
 cd: 6:00 - 6:30 descent to landing at Groton

WIND: 250° at 7 mph (Groton)

WEATHER: Clear and warm

Figure 187. Plot of aircraft data recorded during flight #43 on August 15, 1975.



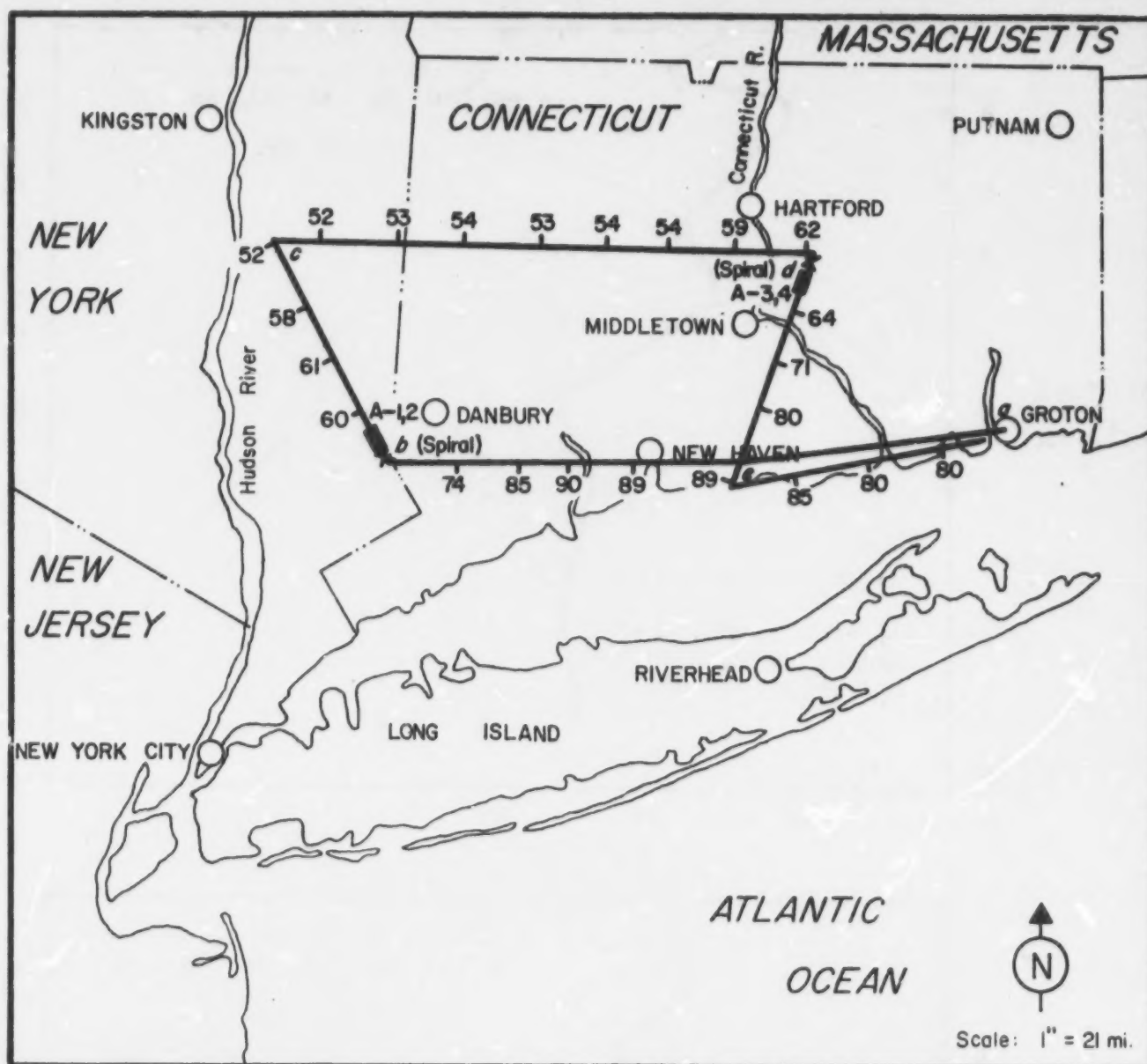


Figure 188. Flight #44 on August 18, 1975, with ozone concentrations (ppb) marked at points along the route.

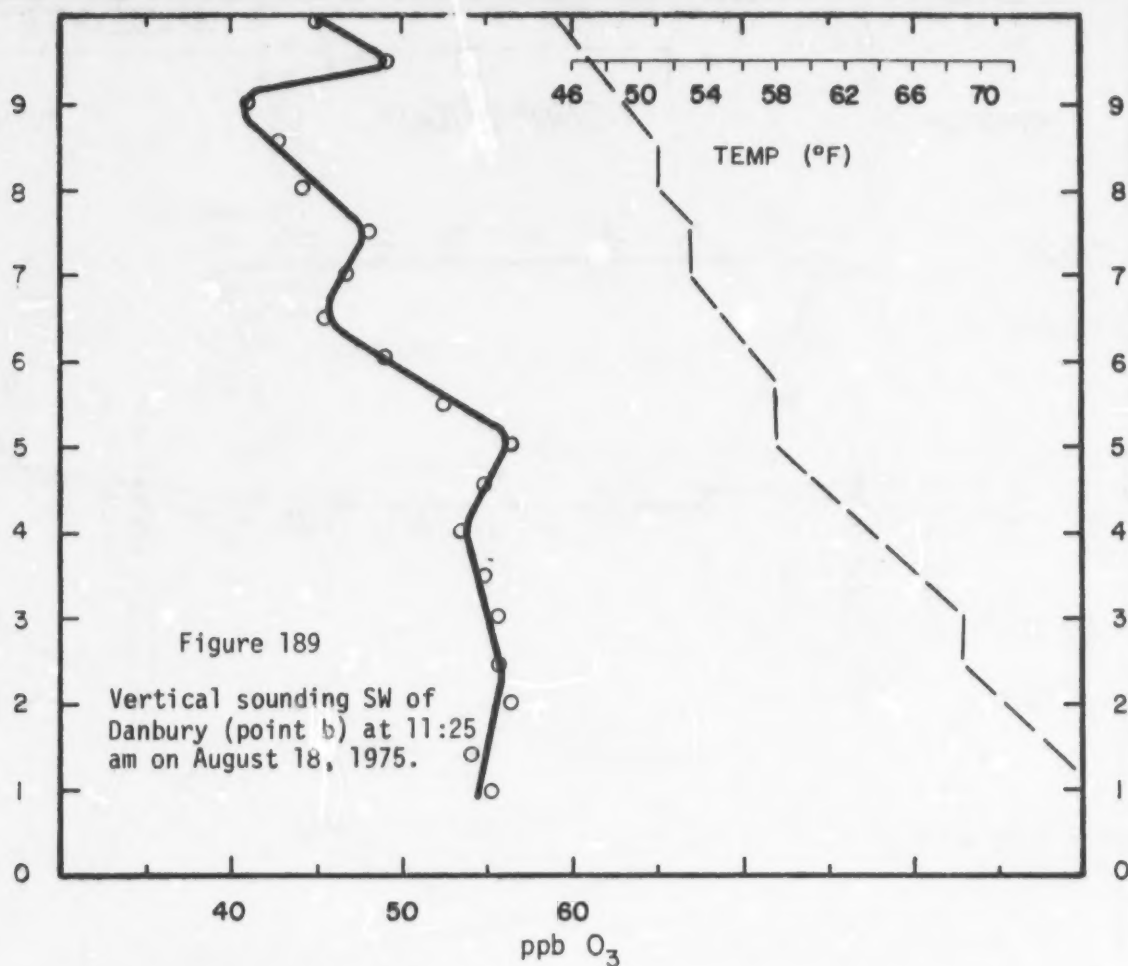
TIME: 10:35 AM to 1:30 PM

Leg ab: 10:35 - 11:09 at 3500' MSL
 b: 11:10 - 11:45 spiral ascent to 10,000' and descent to 2000'
 bc: 11:46 - 12:03 at 2000'
 cd: 12:04 - 12:28 at 2000'
 d: 12:29 - 1:02 spiral ascent to 8000' and descent to 1000'
 de: 1:03 - 1:13 at 1500'
 ea: 1:14 - 1:30

WIND: 230° at 10 mph (Groton)

WEATHER: Partly cloudy and warm

ALTITUDE
($\times 10^3$ ft MSL)



ALTITUDE
($\times 10^3$ ft MSL)

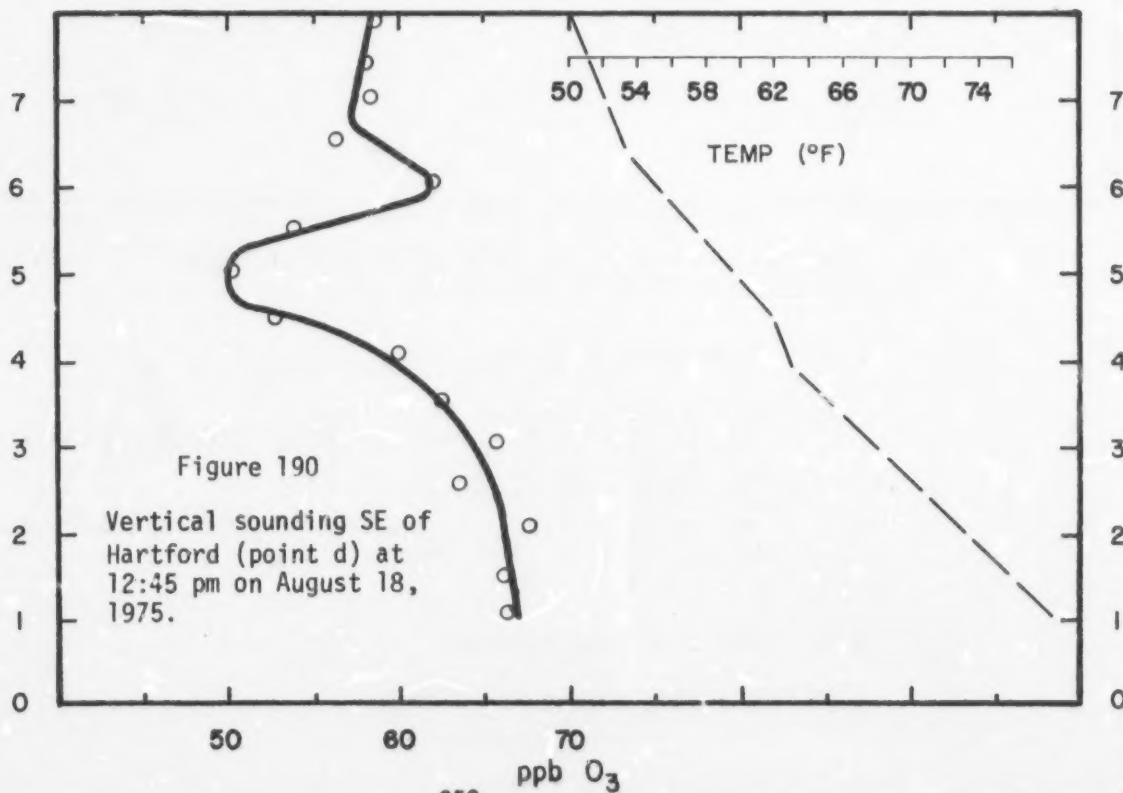
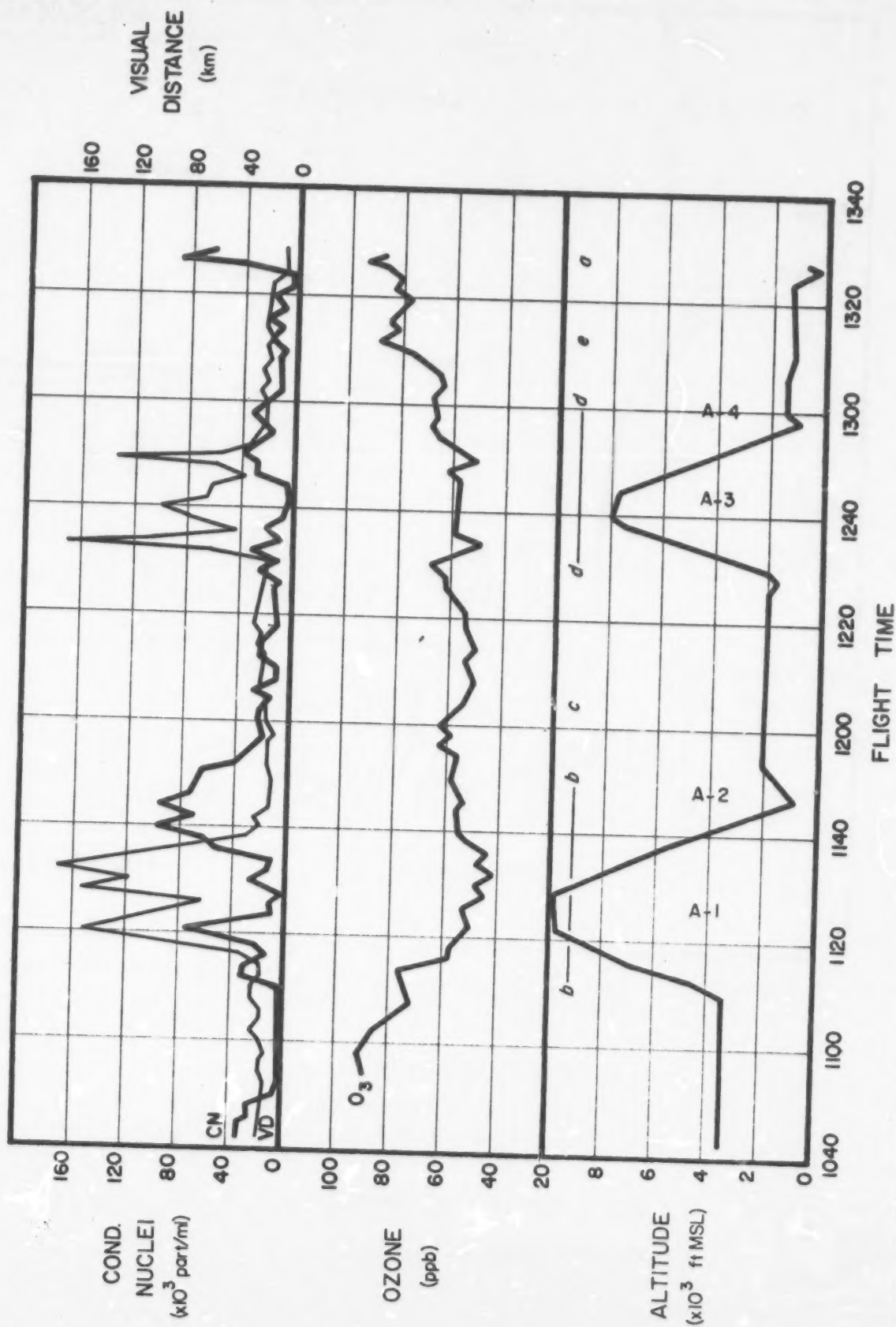


Figure 191. Plot of aircraft data recorded during flight #44 on August 18, 1975.



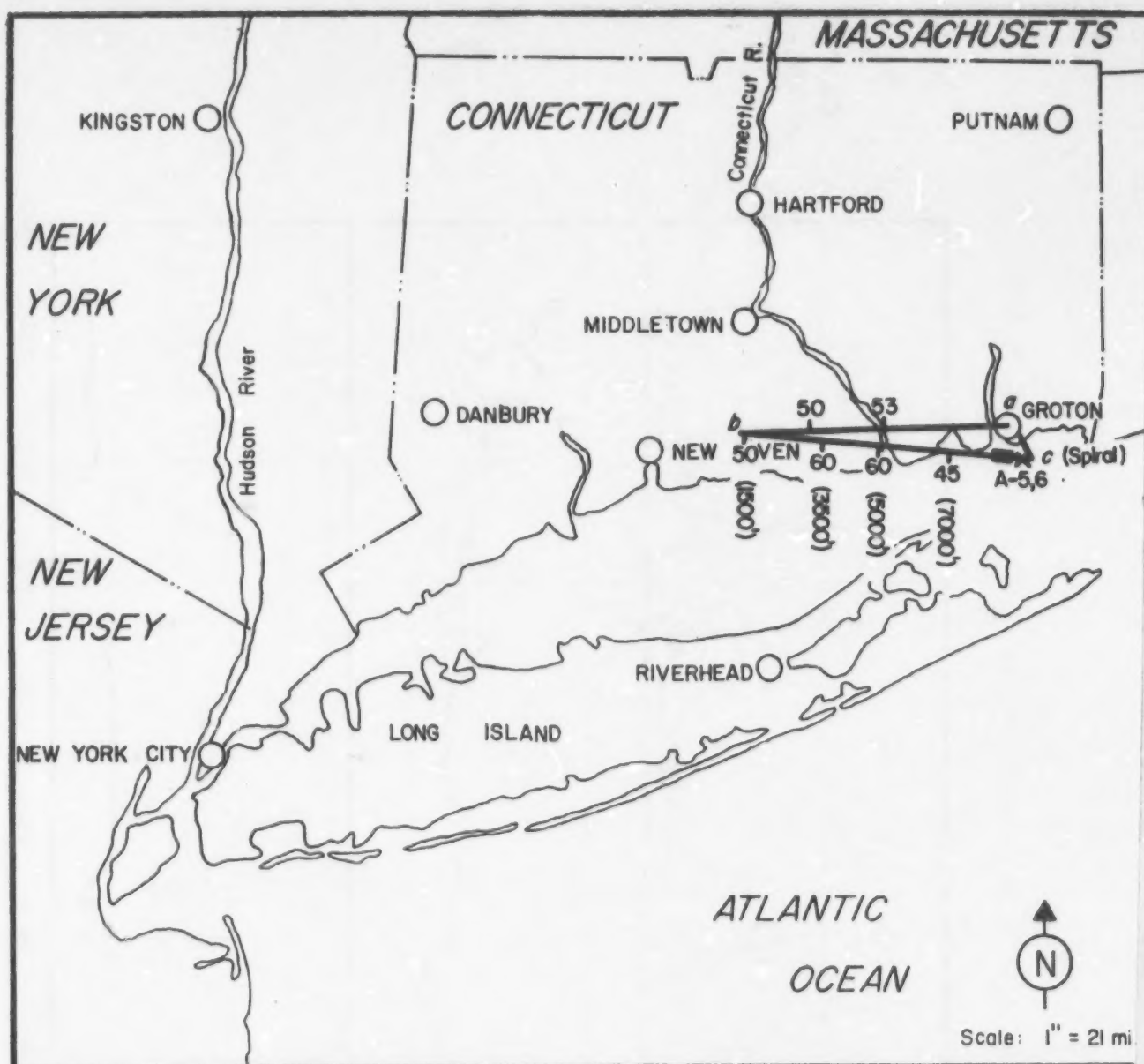


Figure 192. Flight #45 on August 18, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 7:40 PM to 8:30 PM

Leg ab: 7:40 - 7:52 at 1500' MSL
 bc: 7:53 - 8:05 angle ascent to 7000'
 c: 8:06 - 8:30 spiral descent to landing at Groton

WIND: 260° at 8 mph (Groton)

WEATHER: Hazy and warm

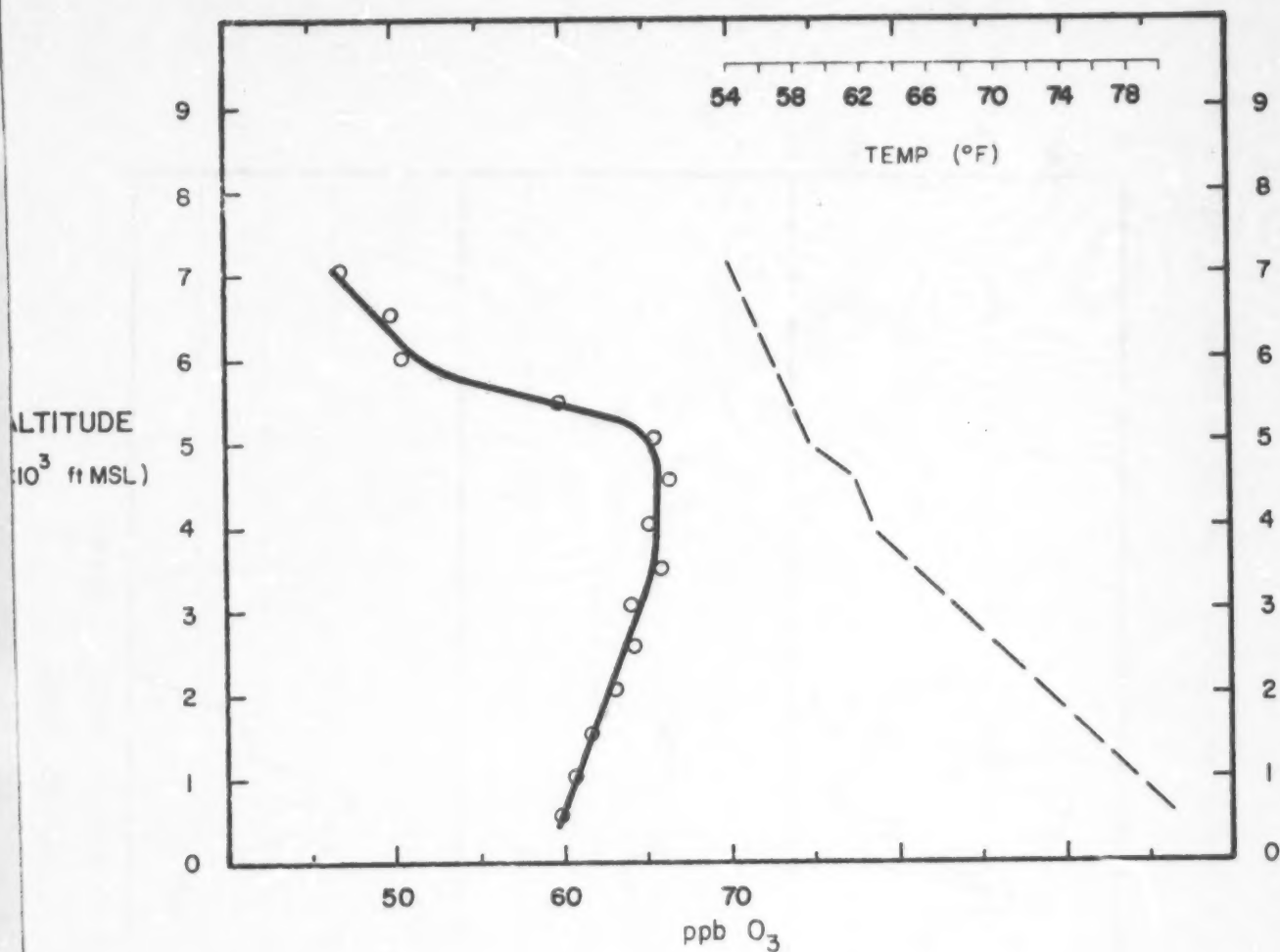
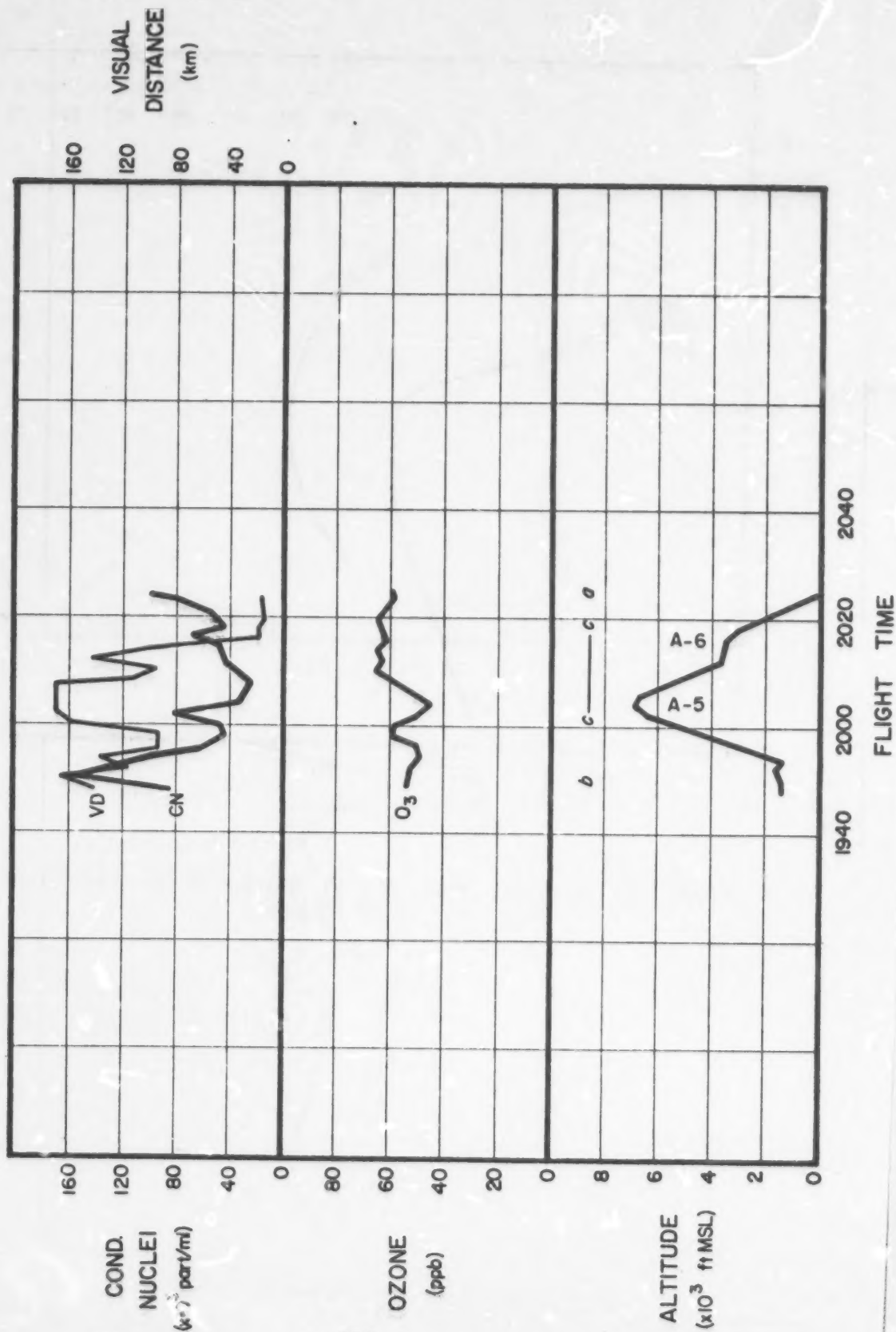


Figure 193. Vertical ozone and temperature profiles near Groton (point c) at 8:15 pm on August 18, 1975.

Figure 194. Plot of aircraft data recorded during flight #45 on August 18, 1975.



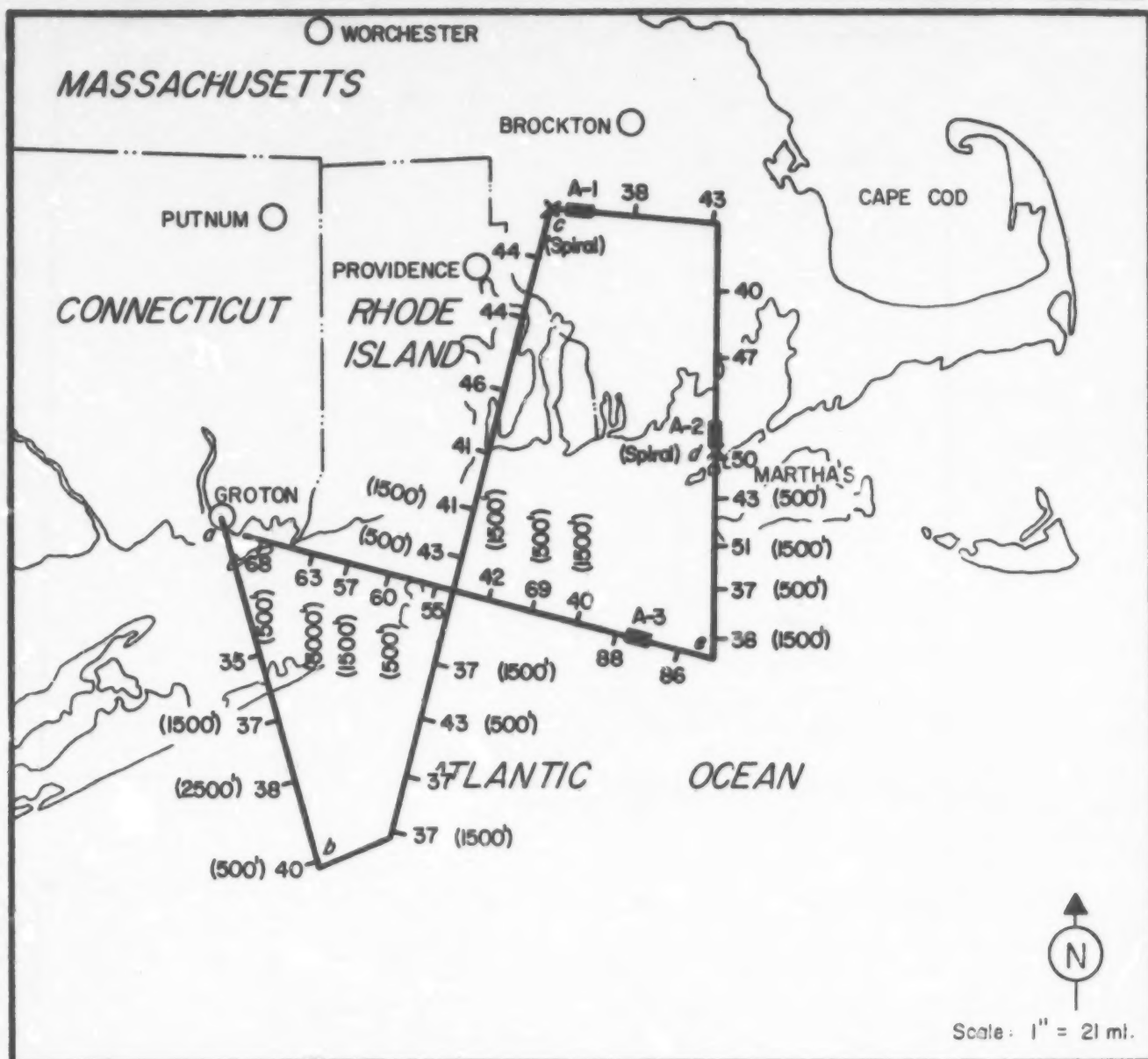


Figure 195. Flight #46 on August 19, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 10:00 AM to 1:20 PM

Leg ab: 10:00 - 10:20 between 500' and 2500' MSL
 bc: 10:21 - 11:08 between 500' and 1500'
 c: 11:09 - 11:31 spiral ascent to 6000' and descent to 1000'
 cd: 11:32 - 11:46 at 1500'
 d: 11:47 - 12:14 spiral ascent to 7000' and descent to 1500'
 de: 12:15 - 12:29 between 500' and 1500'
 ea: 12:30 - 1:20 between 500' and 3000'

WIND: 330° at 15 mph (Groton)

WEATHER: Sunny and warm

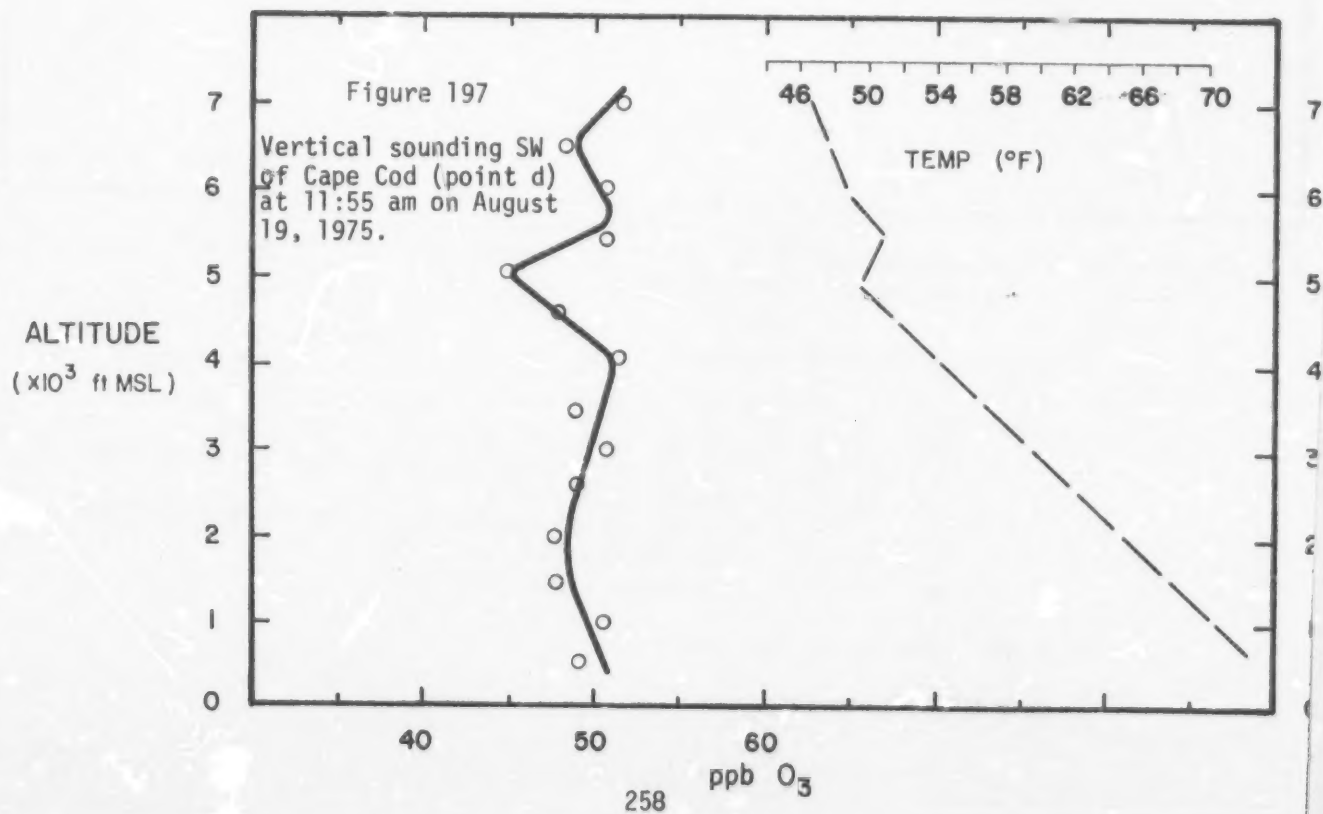
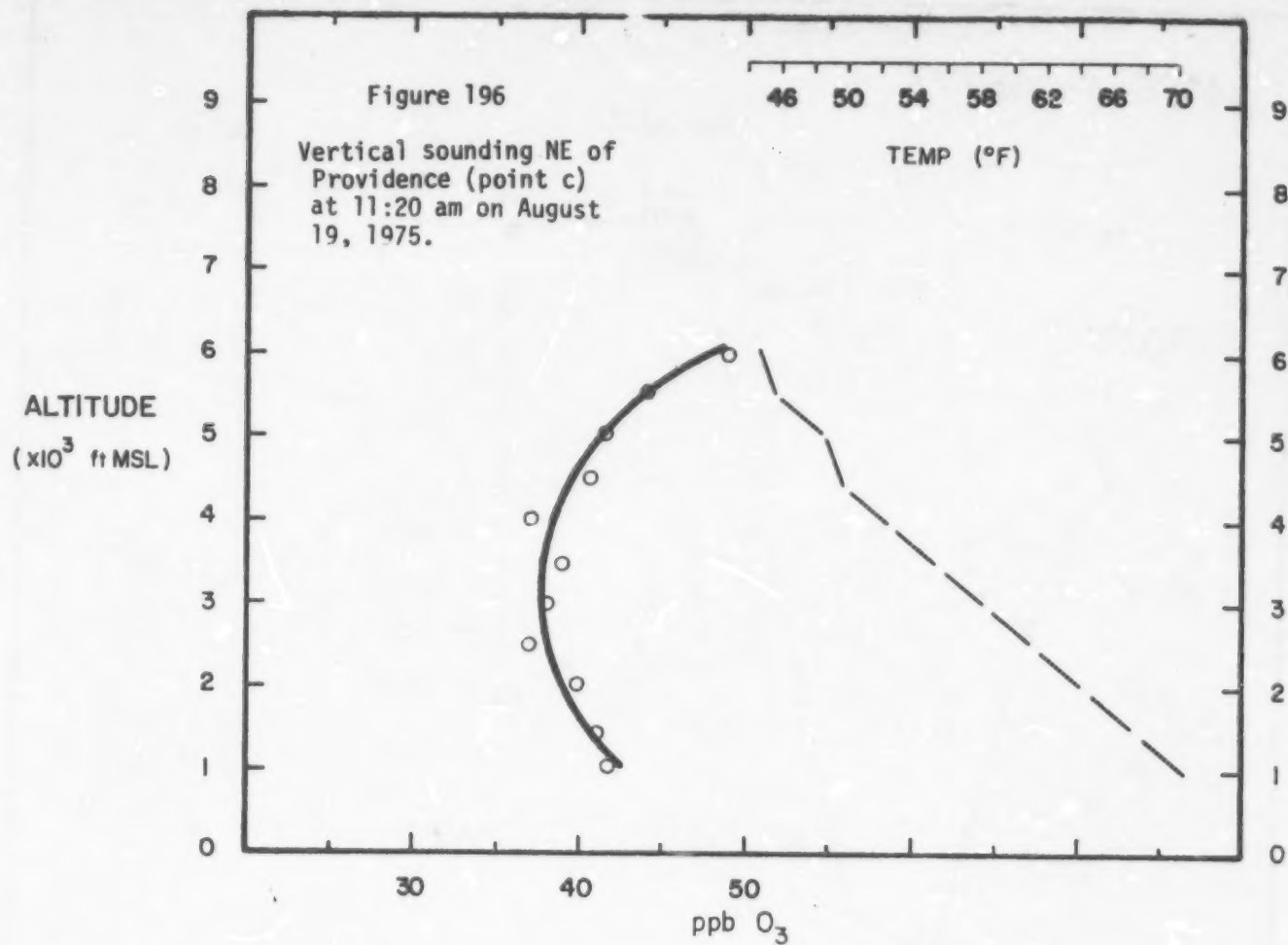
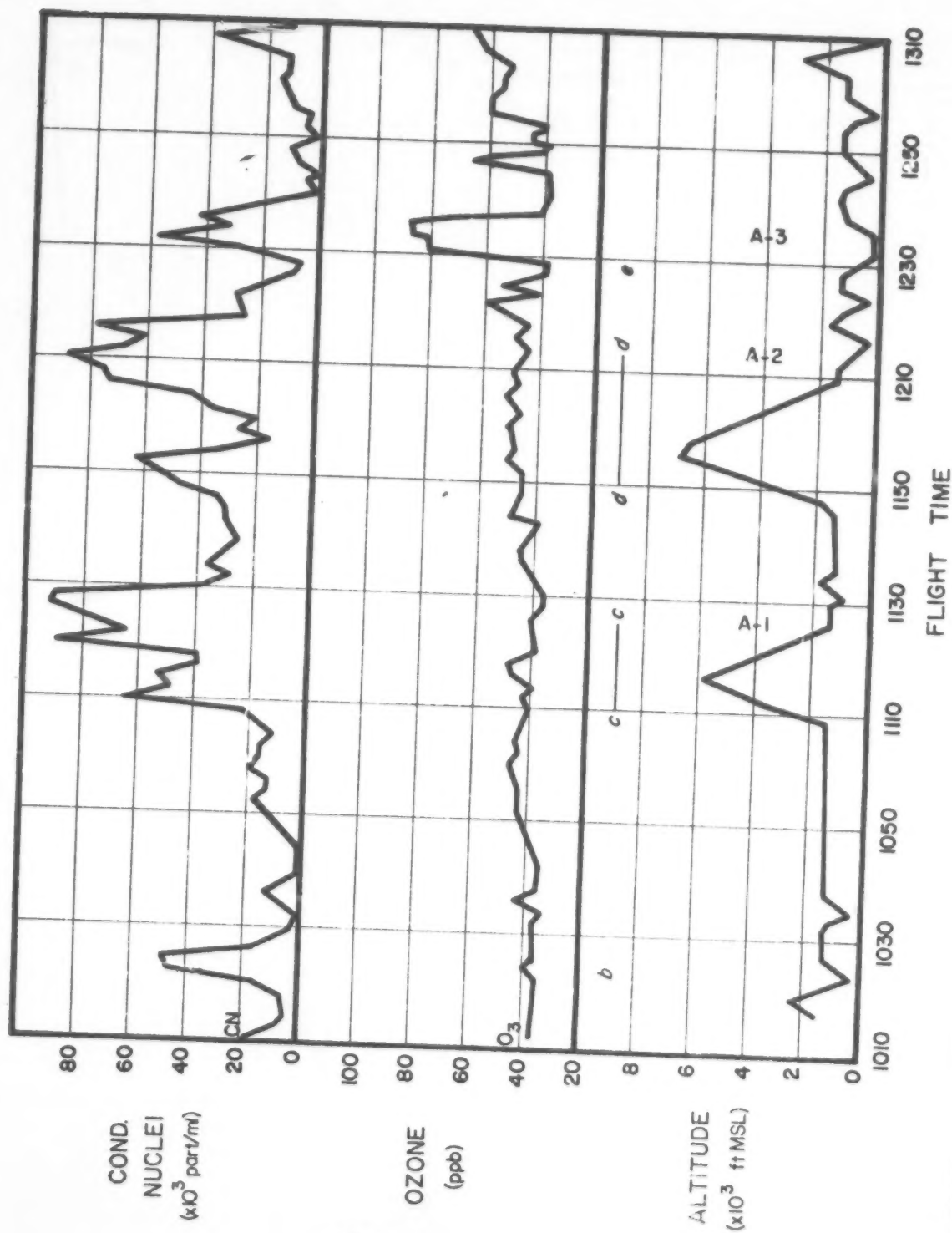


Figure 198. Plot of aircraft data recorded during flight #46 on August 19, 1975.



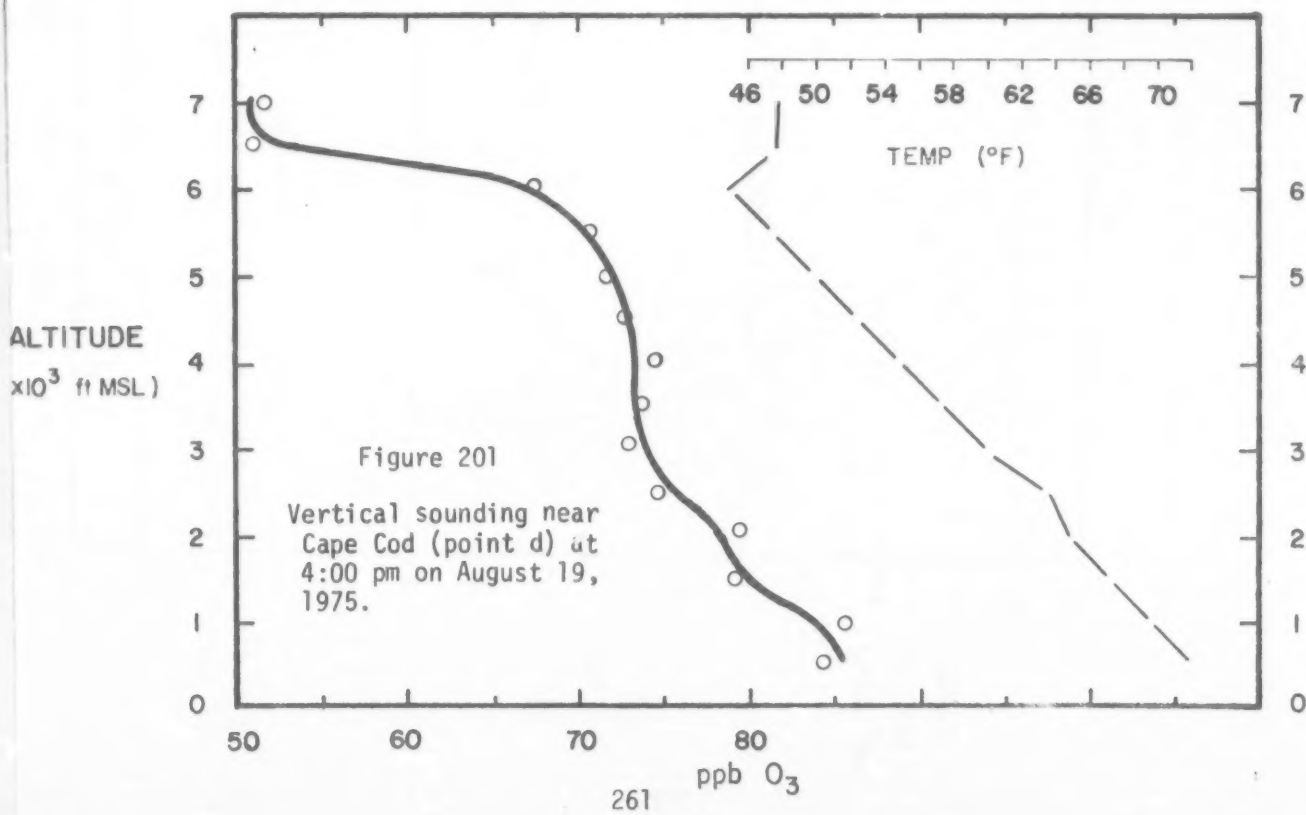
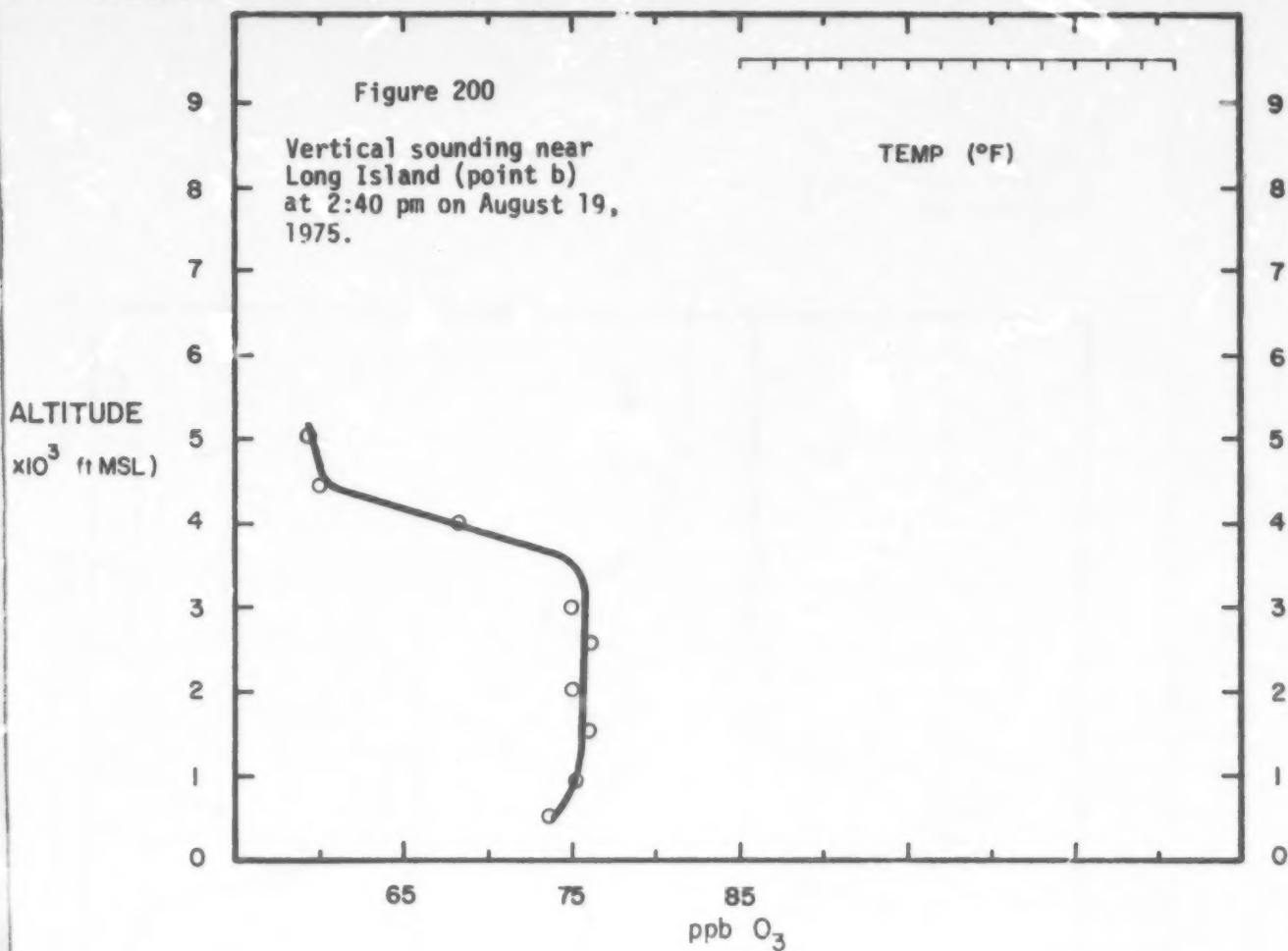
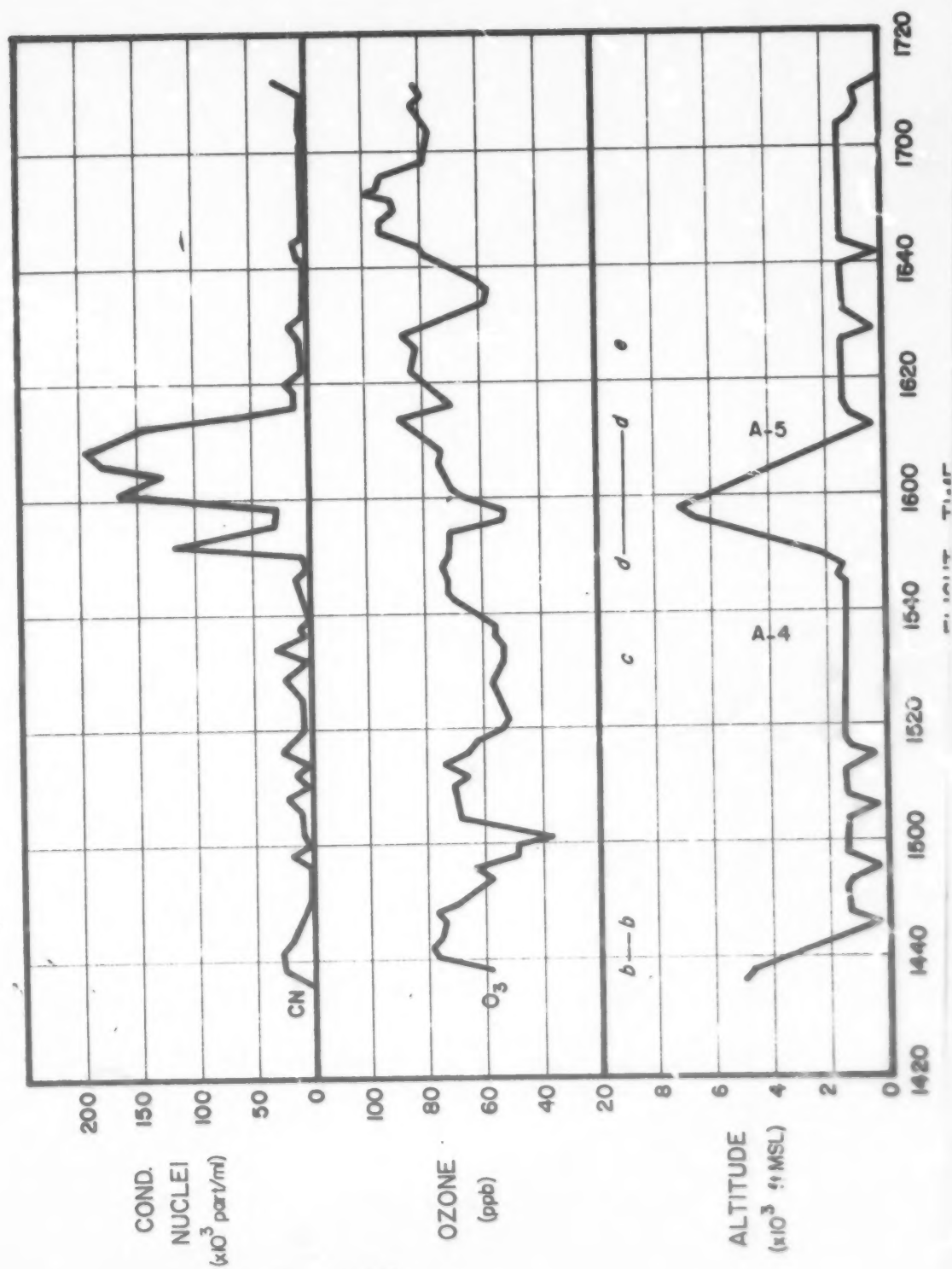


Figure 202. Plot of aircraft data recorded during flight #47 on August 19, 1975.



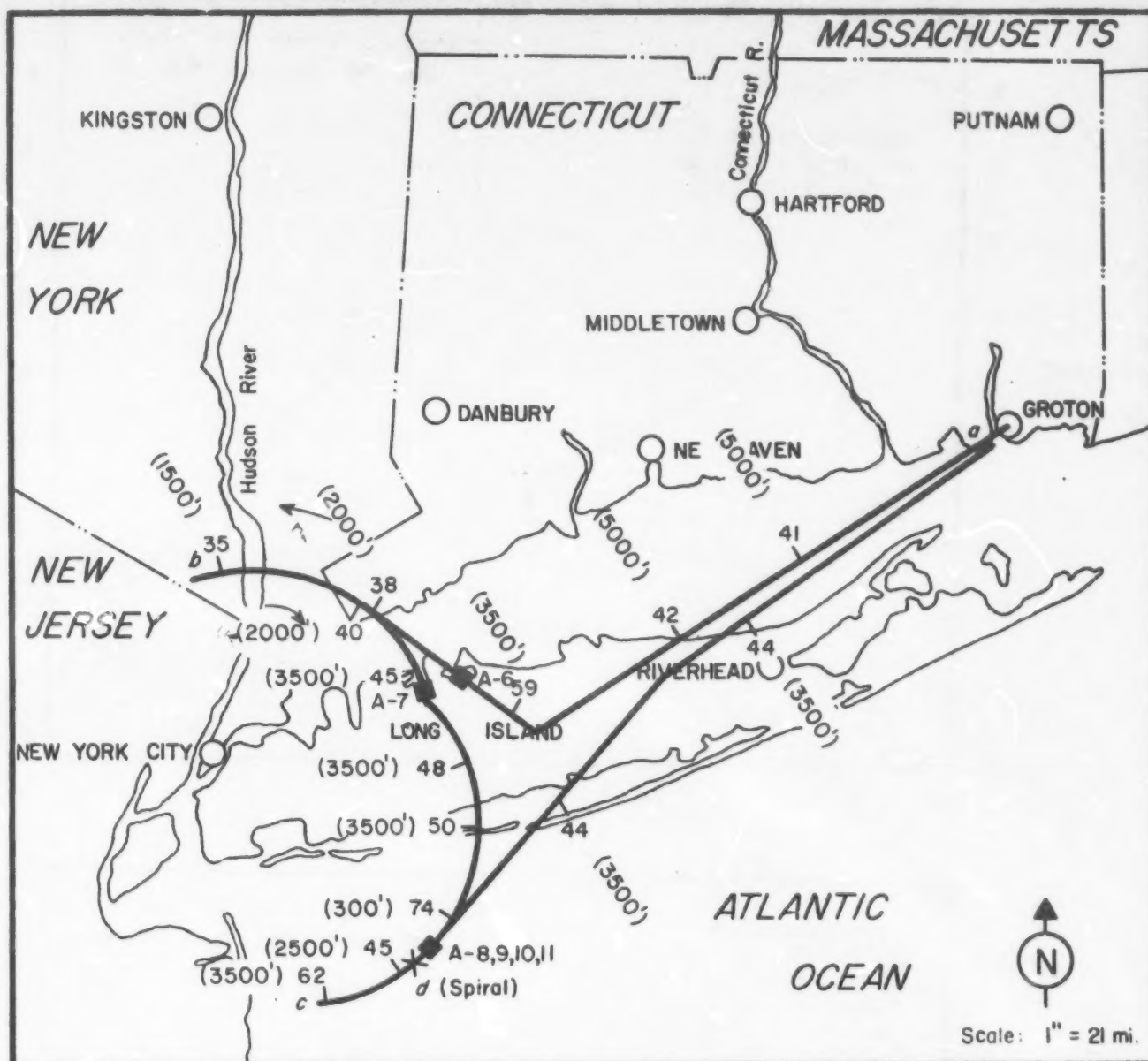


Figure 203. Flight #48 on August 19, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 7:05 AM to 10:20 PM

Leg
 ab: 7:05 - 8:00 between 1500 and 5000' MSL
 bc: 8:01 - 8:52 between 300 and 5000'
 cd: 8:53 - 9:20 at 1500'
 d: 9:21 - 9:39 spiral ascent to 4500'
 da: 9:40 - 10:20 between 500 and 3500'

WIND: 300° at 10 mph (JFK)

WEATHER: Sunny and Warm

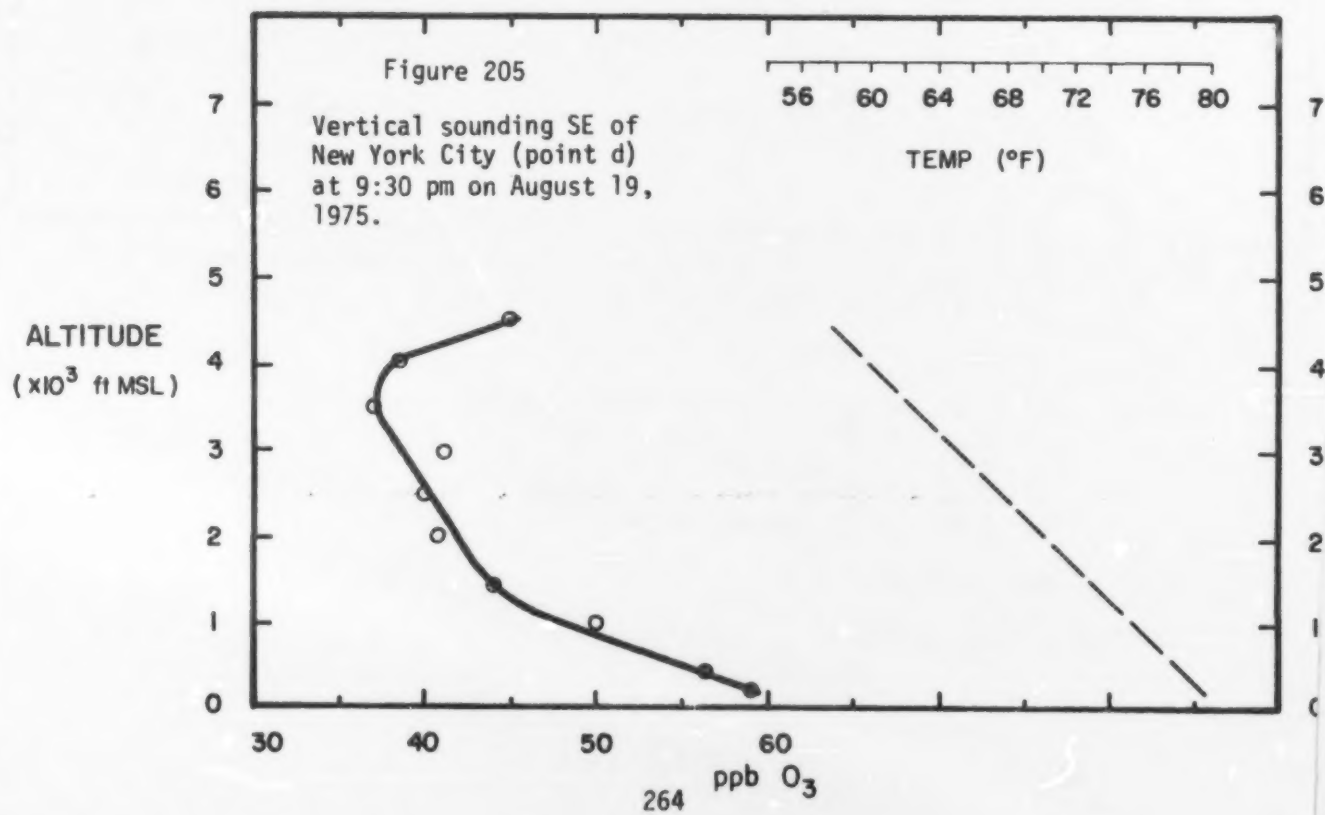
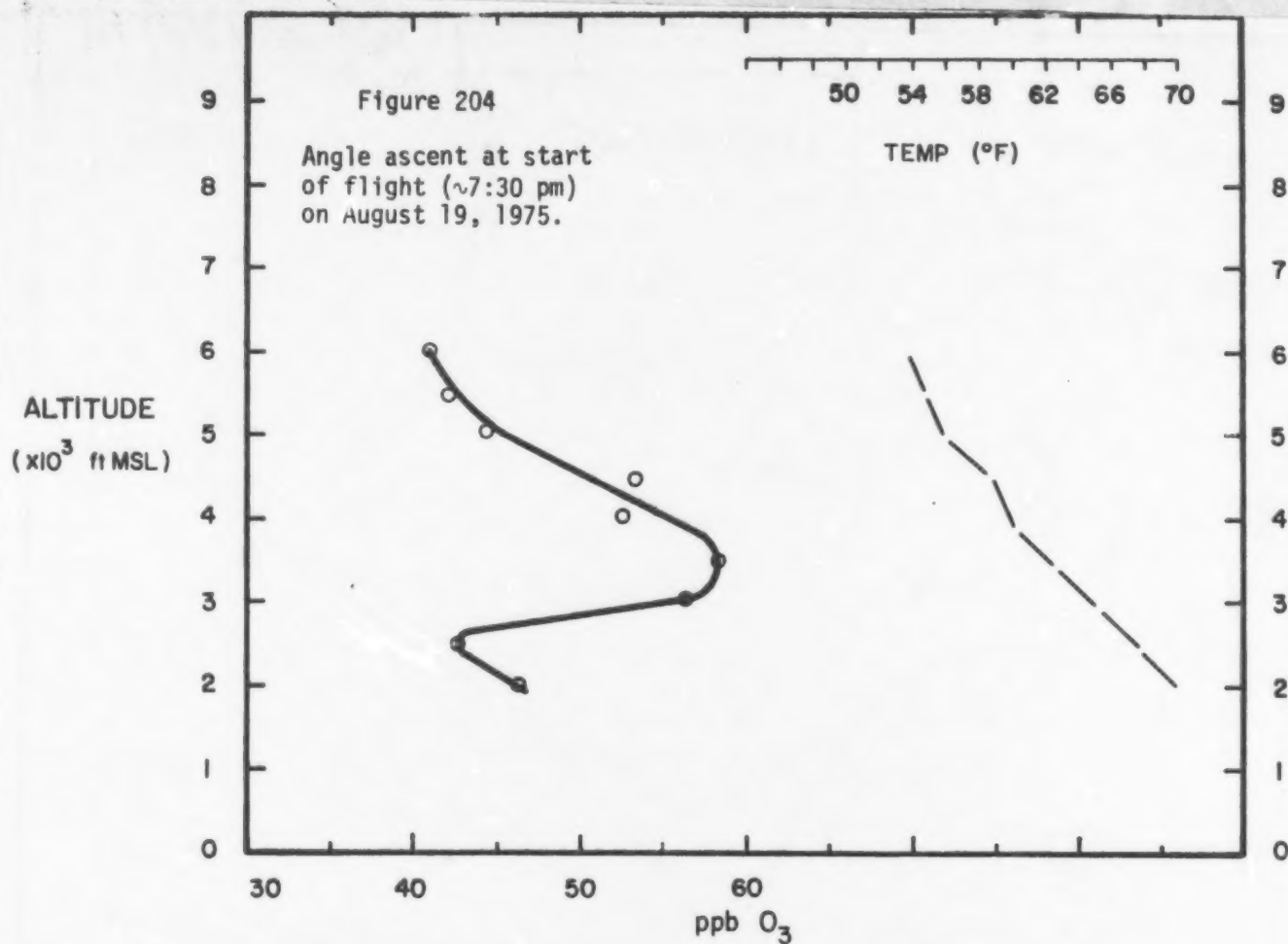
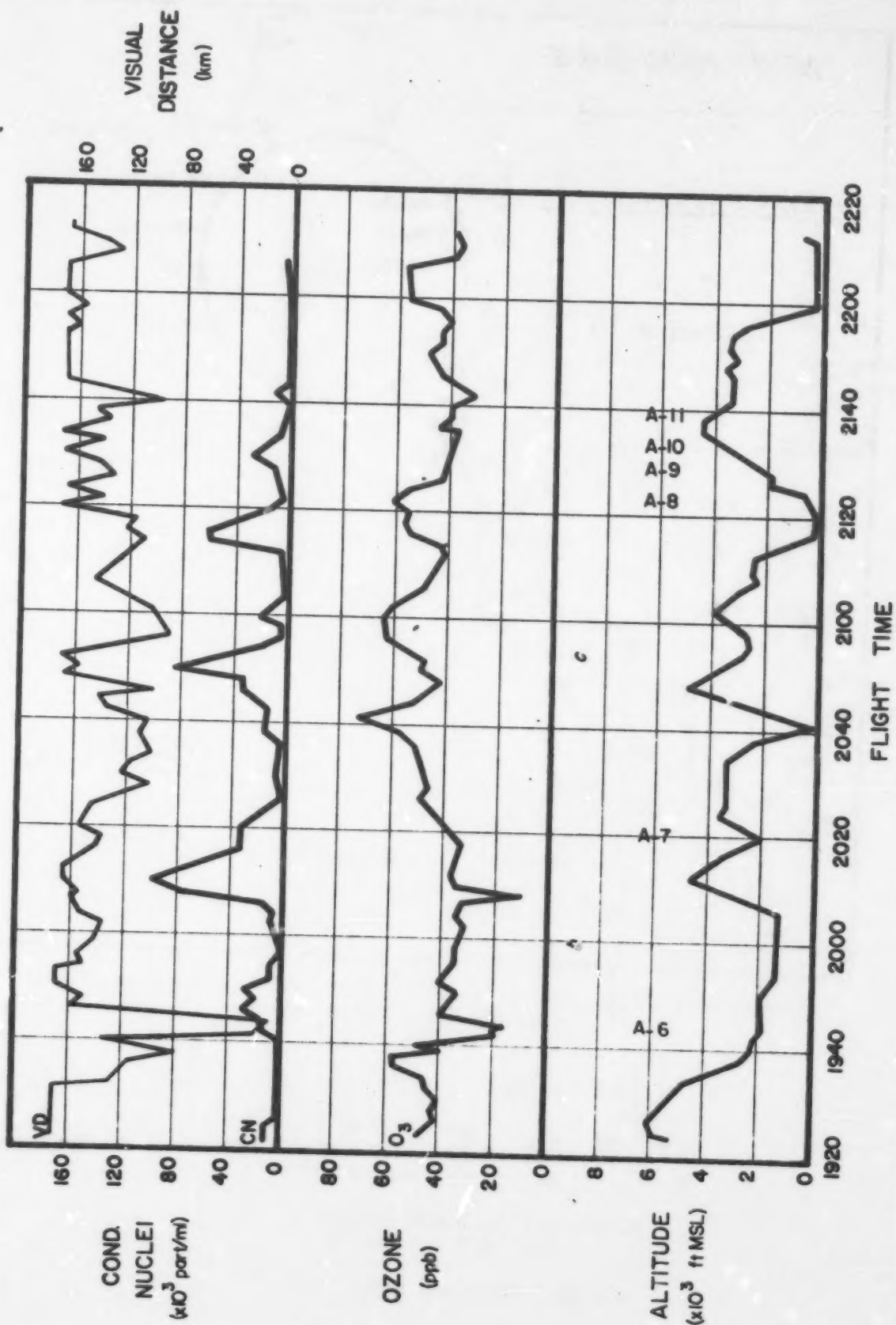


Figure 206. Plot of aircraft data recorded during flight #48 on August 19, 1975.



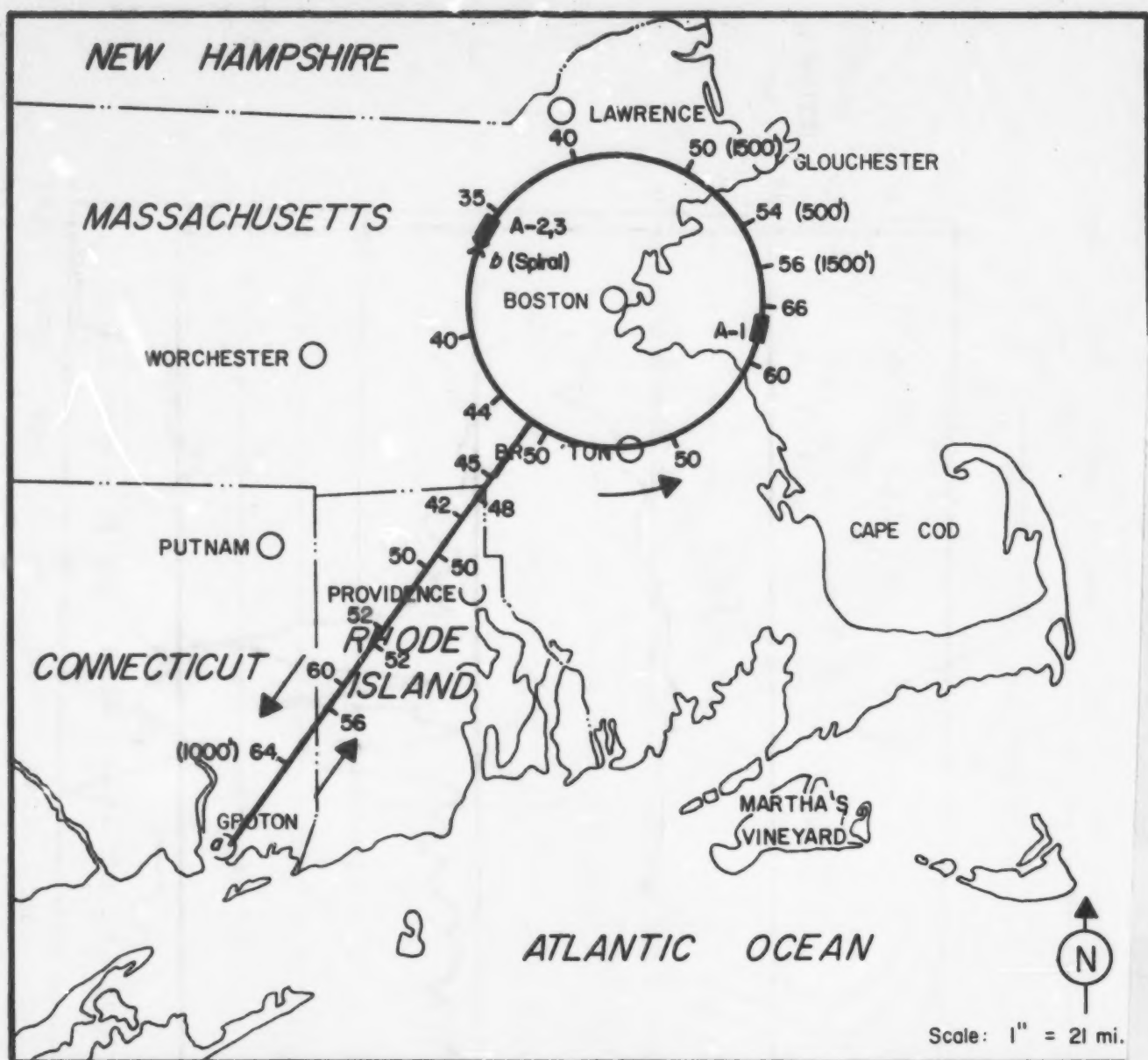


Figure 207. Flight #49 on August 20, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 12:00 to 2:45 PM

Leg ab: 12:00 - 1:27 at 1500' MSL
 b: 1:28 - 1:54 spiral ascent to 7500' and descent to 1500'
 ba: 1:55 - 2:45 at 1500'

WIND: 010° at 8 mph (Groton)
 310° at 8 mph (Boston)

WEATHER: Sunny and warm

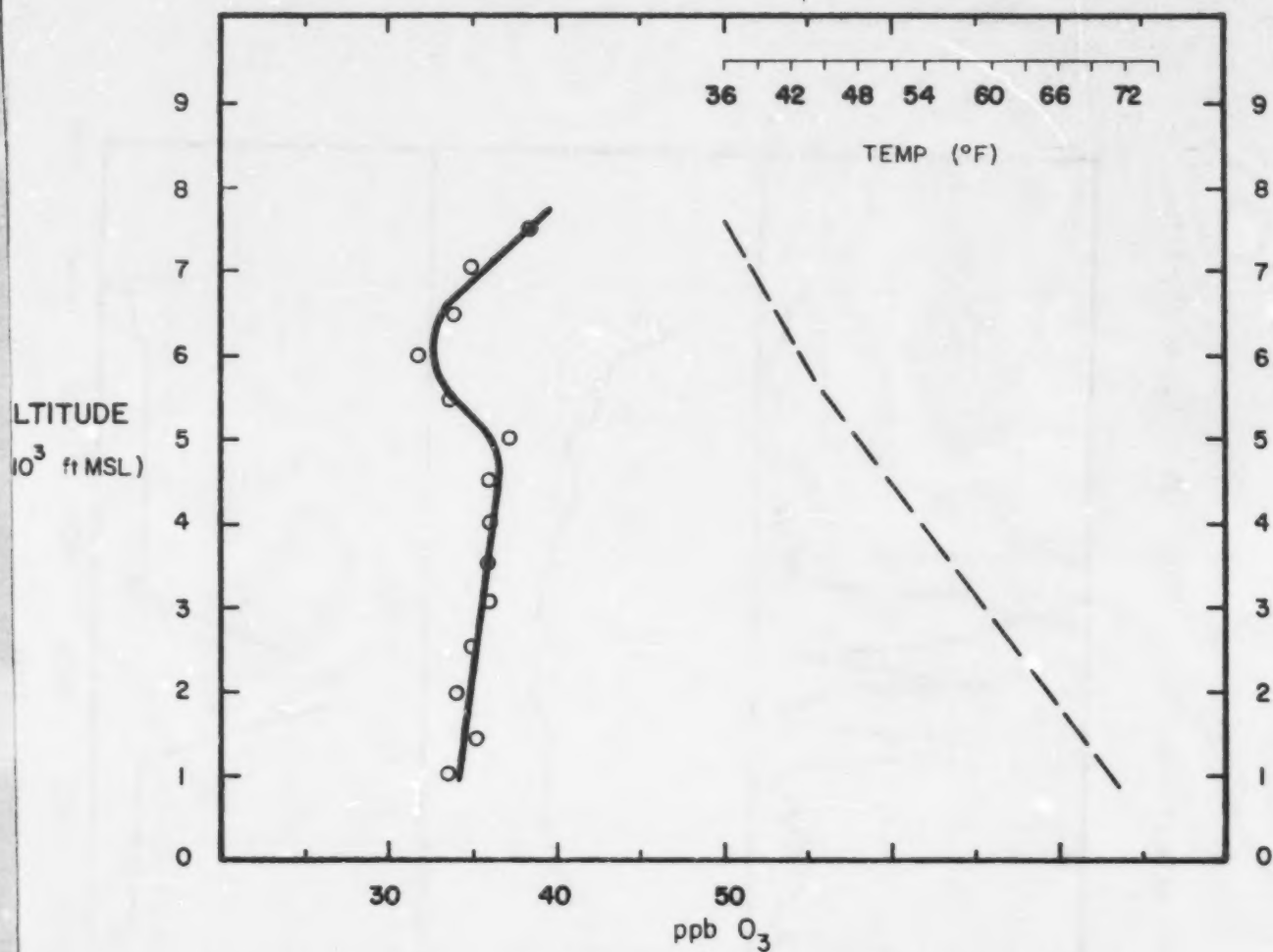
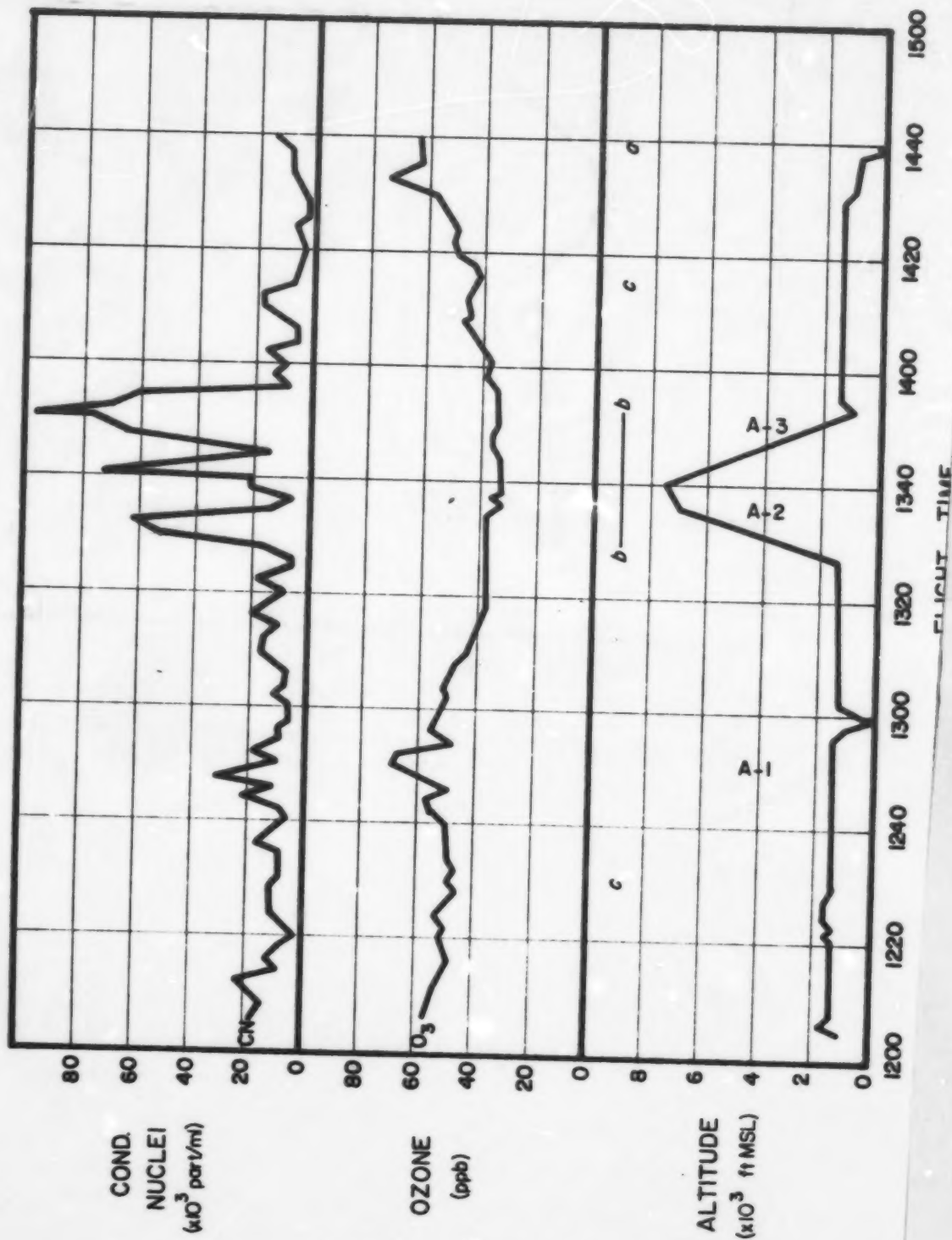


Figure 208. Vertical ozone and temperature profiles NW of Boston (point b) at 1:40 pm on August 20, 1975.

Figure 209. Plot of aircraft data recorded during flight #49 on August 20, 1975.



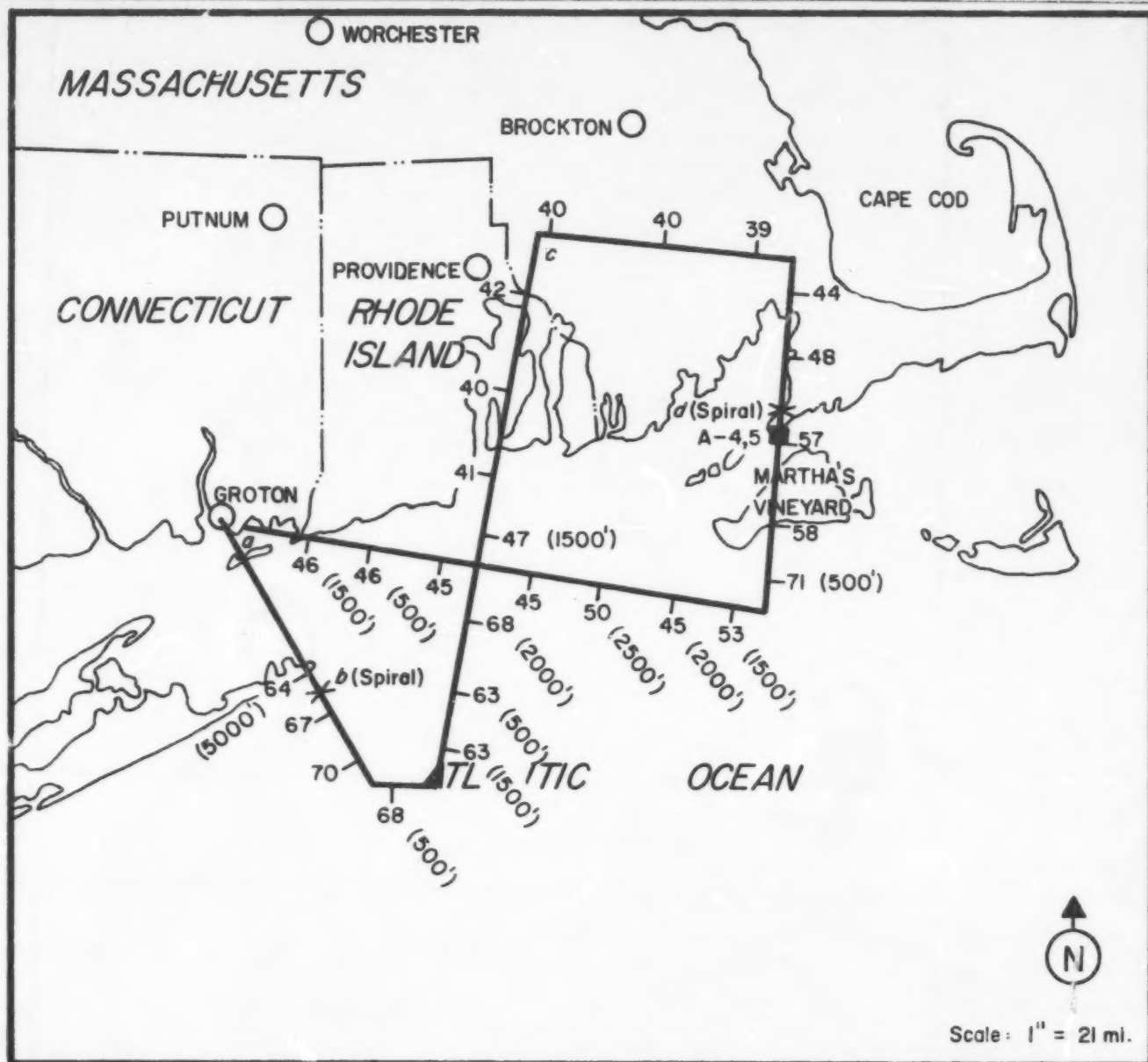


Figure 210. Flight #50 on August 20, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 4:15 to 7:05 PM

Leg ab: 4:15 - 4:25 angle ascent to 5000' MSL
 b: 4:26 - 4:35 spiral descent to 500'
 bc: 4:36 - 5:20 between 500 and 2000'
 cd: 5:21 - 5:38 at 1500'
 d: 5:39 - 6:13 spiral ascent to 7500' and descent to 500'
 da: 6:14 - 7:05 between 500 and 2500'

WIND: 300° at 15 mph (Groton)

WEATHER: Sunny and warm

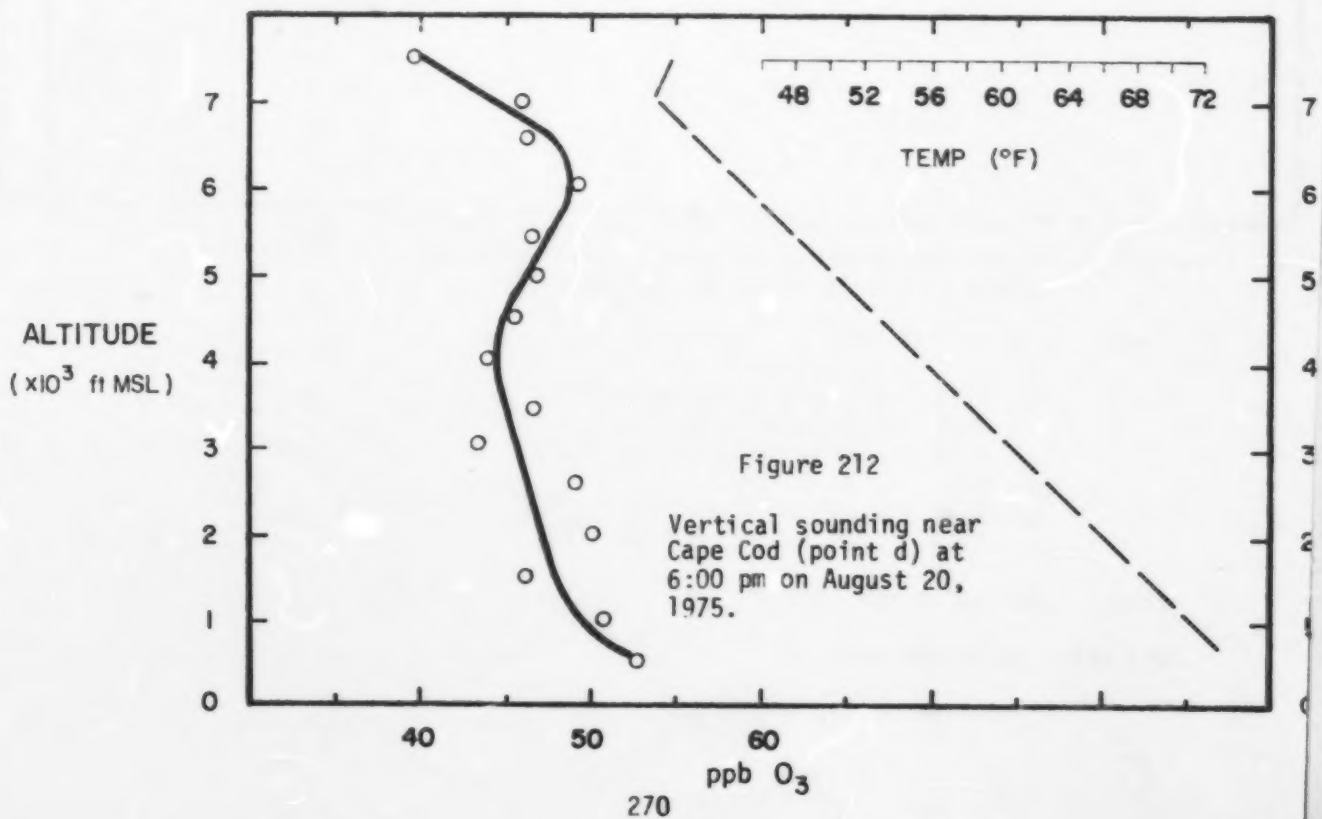
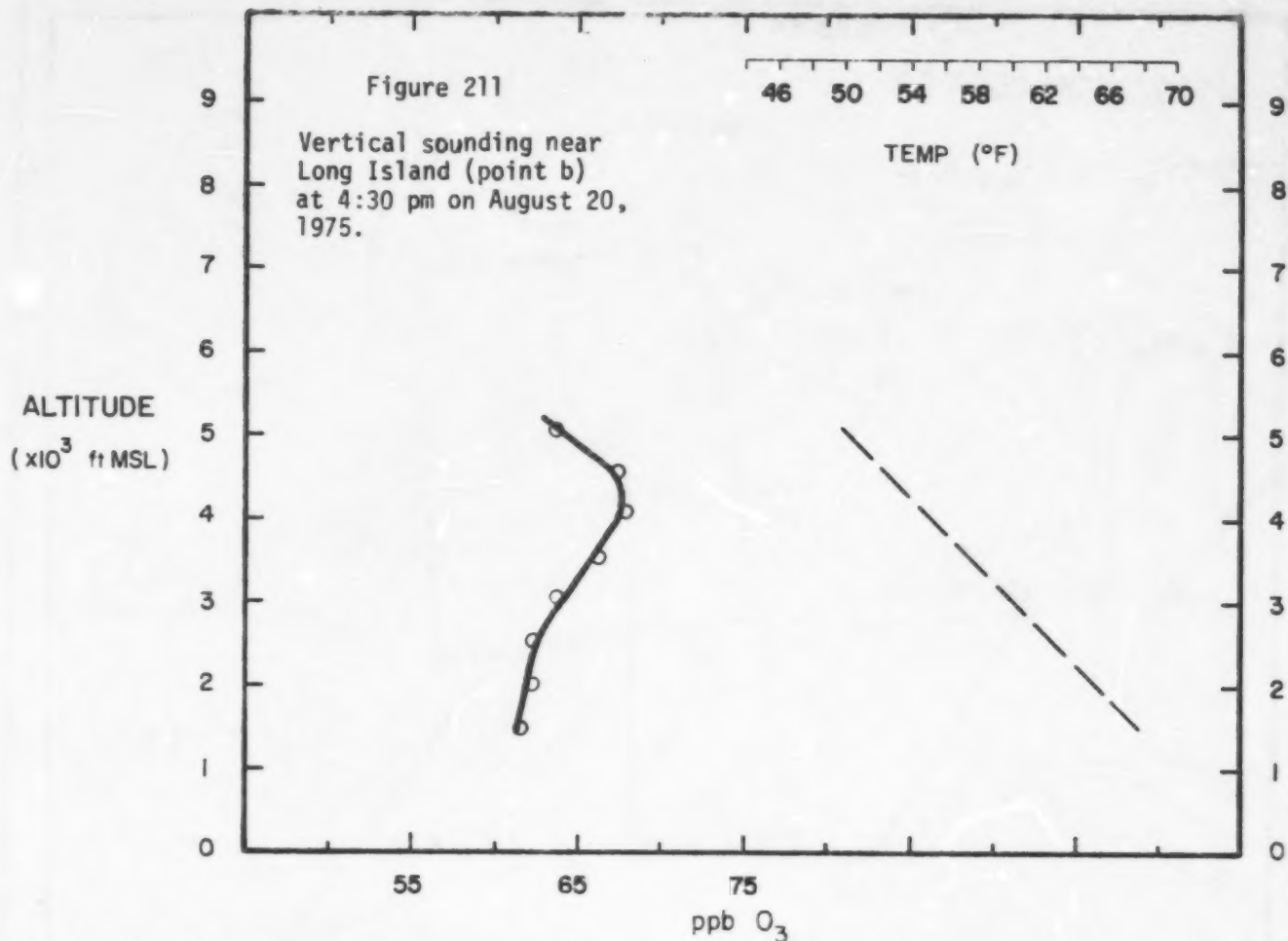
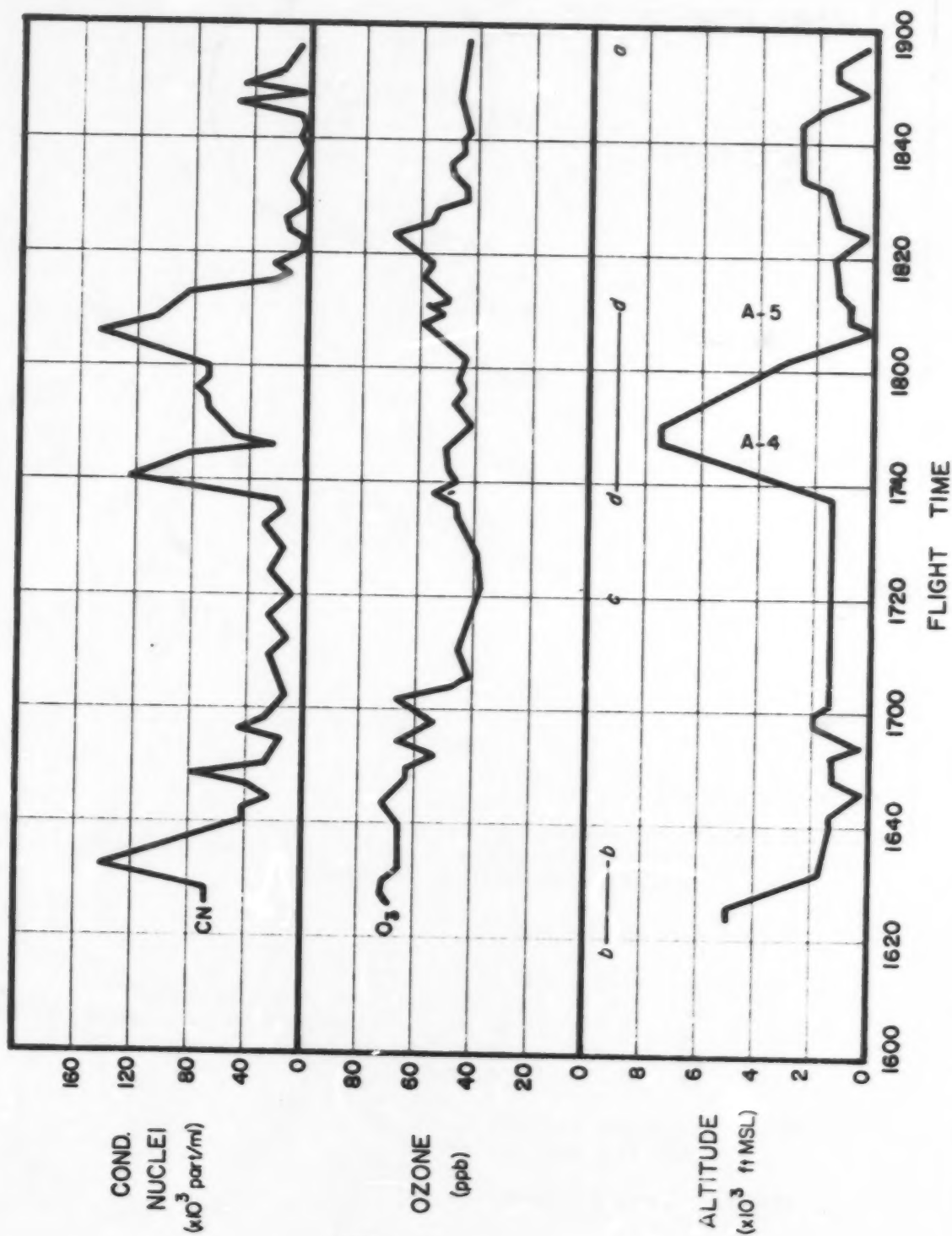


Figure 213. Plot of aircraft data recorded during flight #50 on August 20, 1975.



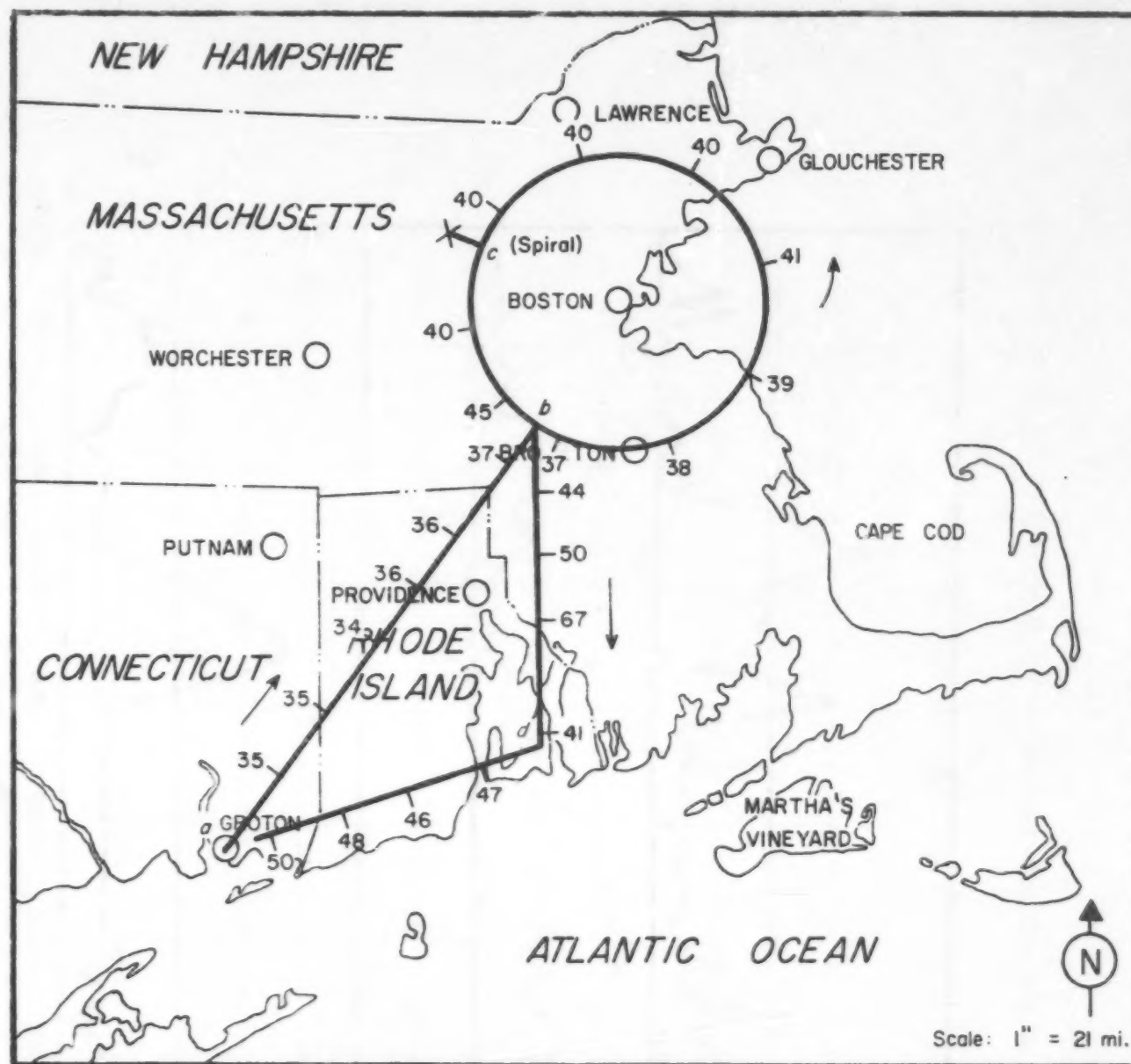


Figure 214. Flight #51 on August 21, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 9:10 to 11:50 AM

Leg ab: 9:10 - 9:39 at 1500' MSL
 bc: 9:40 - 10:22 counterclockwise arc at 1500'
 c: 10:23 - 10:48 spiral ascent to 6500' and descent to 1000'
 cd: 10:49 - 11:24 at 1500'
 da: 11:25 - 11:50 at 1500'

WIND: Light and variable (Groton)
 300° at 5 mph (Boston)

WEATHER: Sunny and Warm

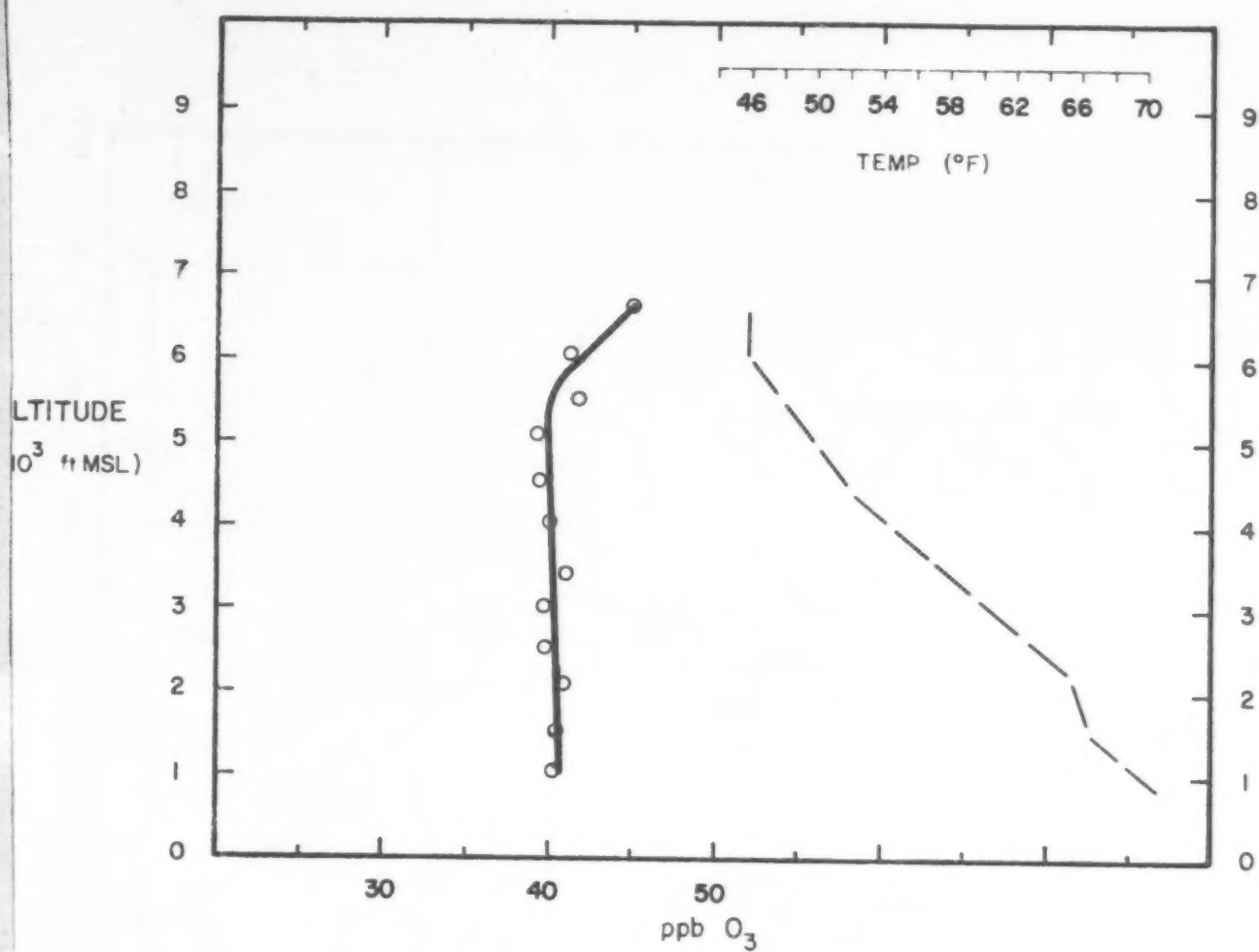
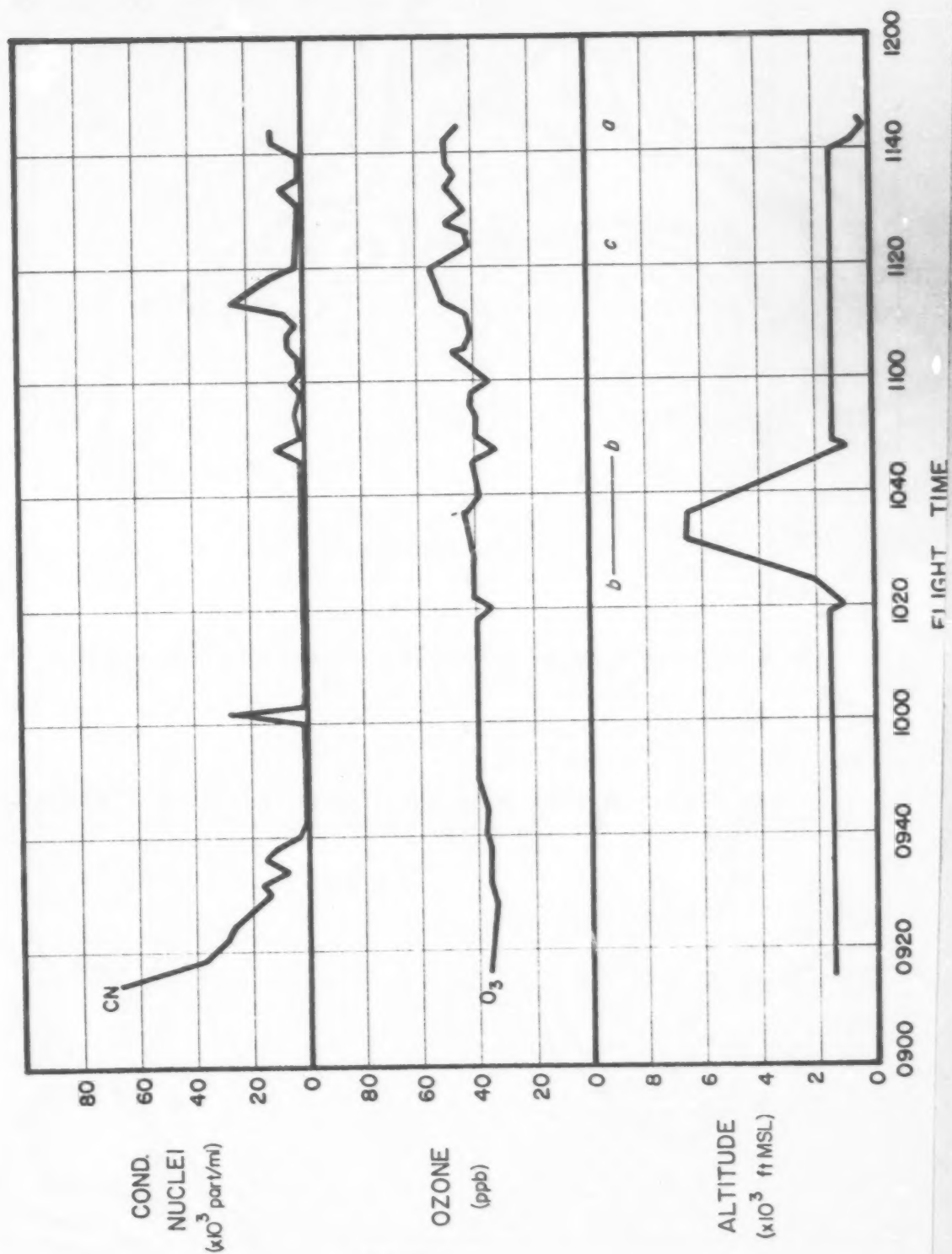


Figure 215. Vertical ozone and temperature profiles NW of Boston (point b) at 10:40 am on August 21, 1975.

Figure 216. Plot of aircraft data recorded during flight #51 on August 21, 1975.



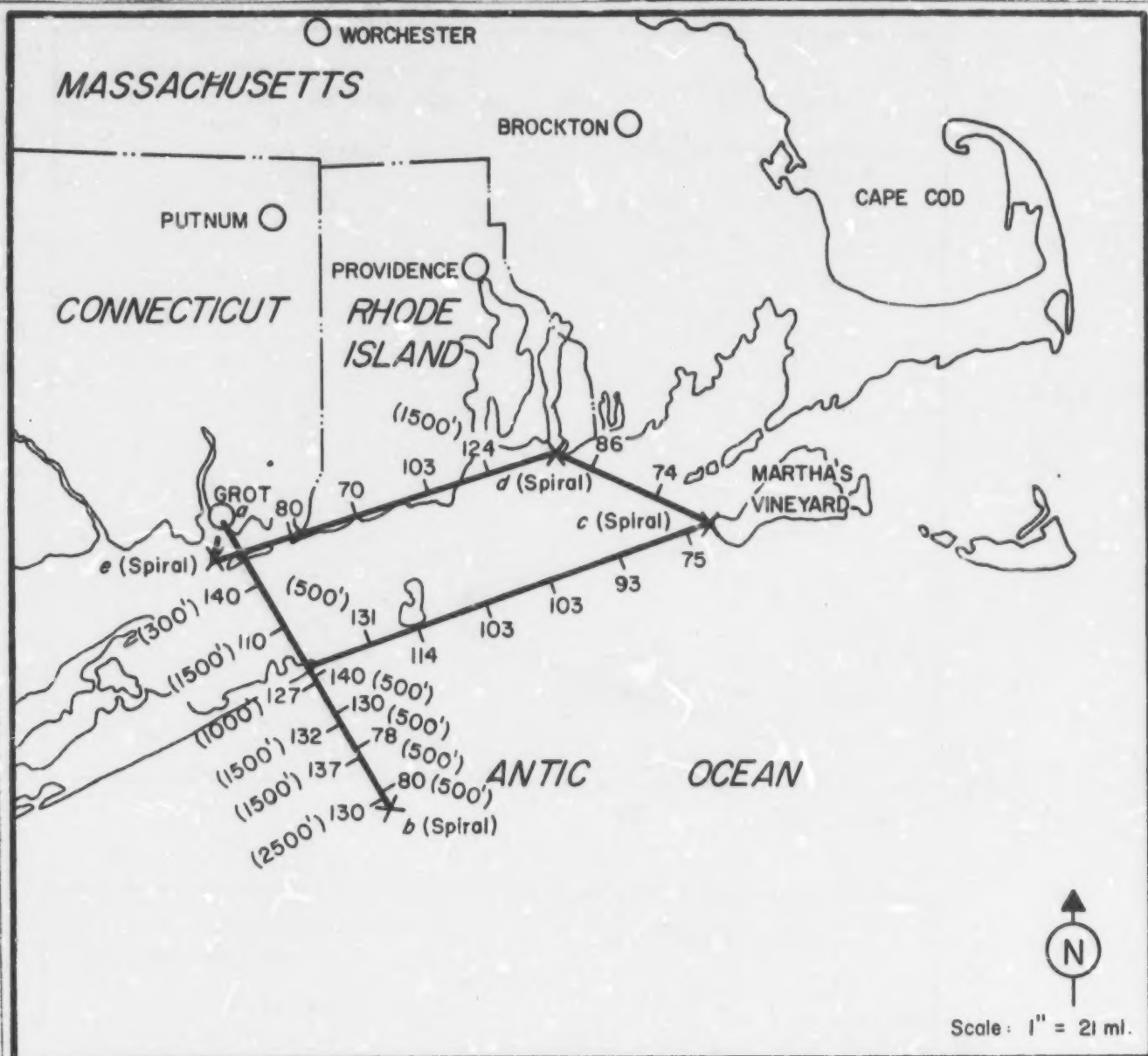


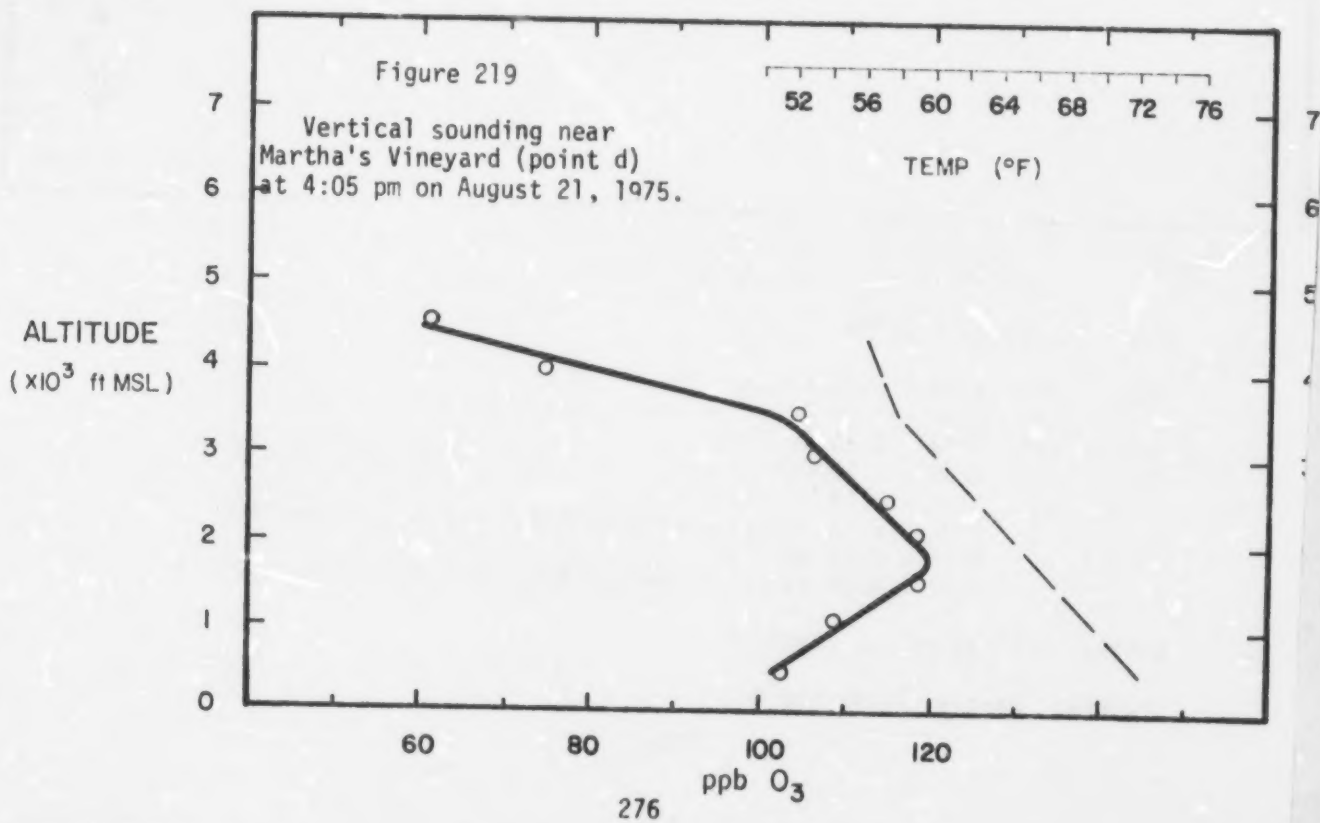
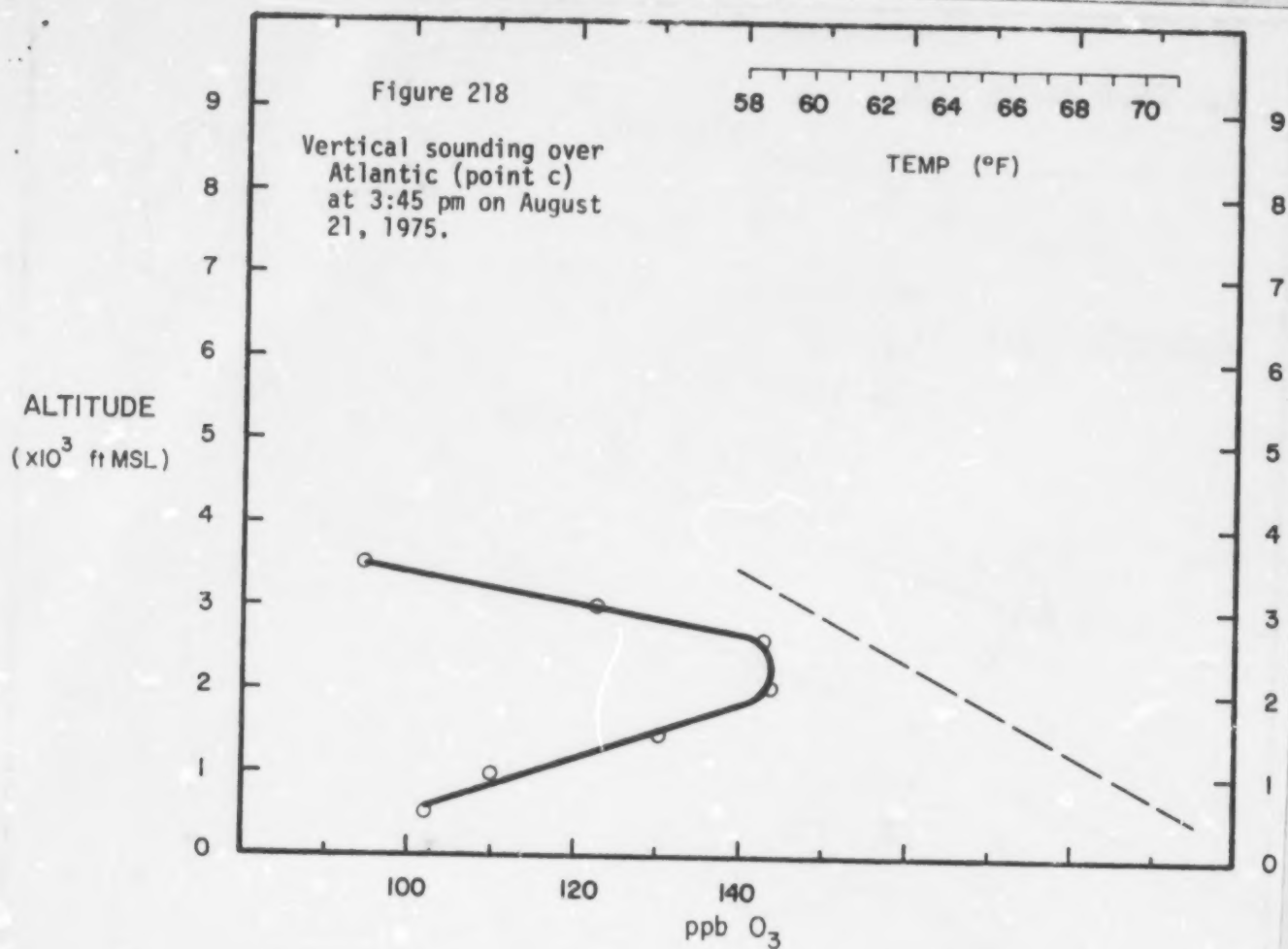
Figure 217. Flight #52 on August 21, 1975, with ozone concentrations (ppb) marked at points along the route.

TIME: 2:40 to 4:55 PM

Leg ab: 2:40 - 3:03 between 300 and 2500' MSL
 b: 3:04 - 3:09 spiral descent from 2500 to 500'
 bc: 3:10 - 3:38 at 500'
 c: 3:39 - 3:53 spiral ascent to 3500' and descent to 300'
 cd: 3:54 - 4:03 at 500'
 d: 4:04 - 4:18 spiral ascent to 4500' and descent to 1500'
 de: 4:19 - 4:31 at 1500'
 e: 4:32 - 4:55 spiral ascent to 4000' and descent to landing

WINDS: 220° at 10 mph (Groton)

WEATHER: Partly cloudy and hot



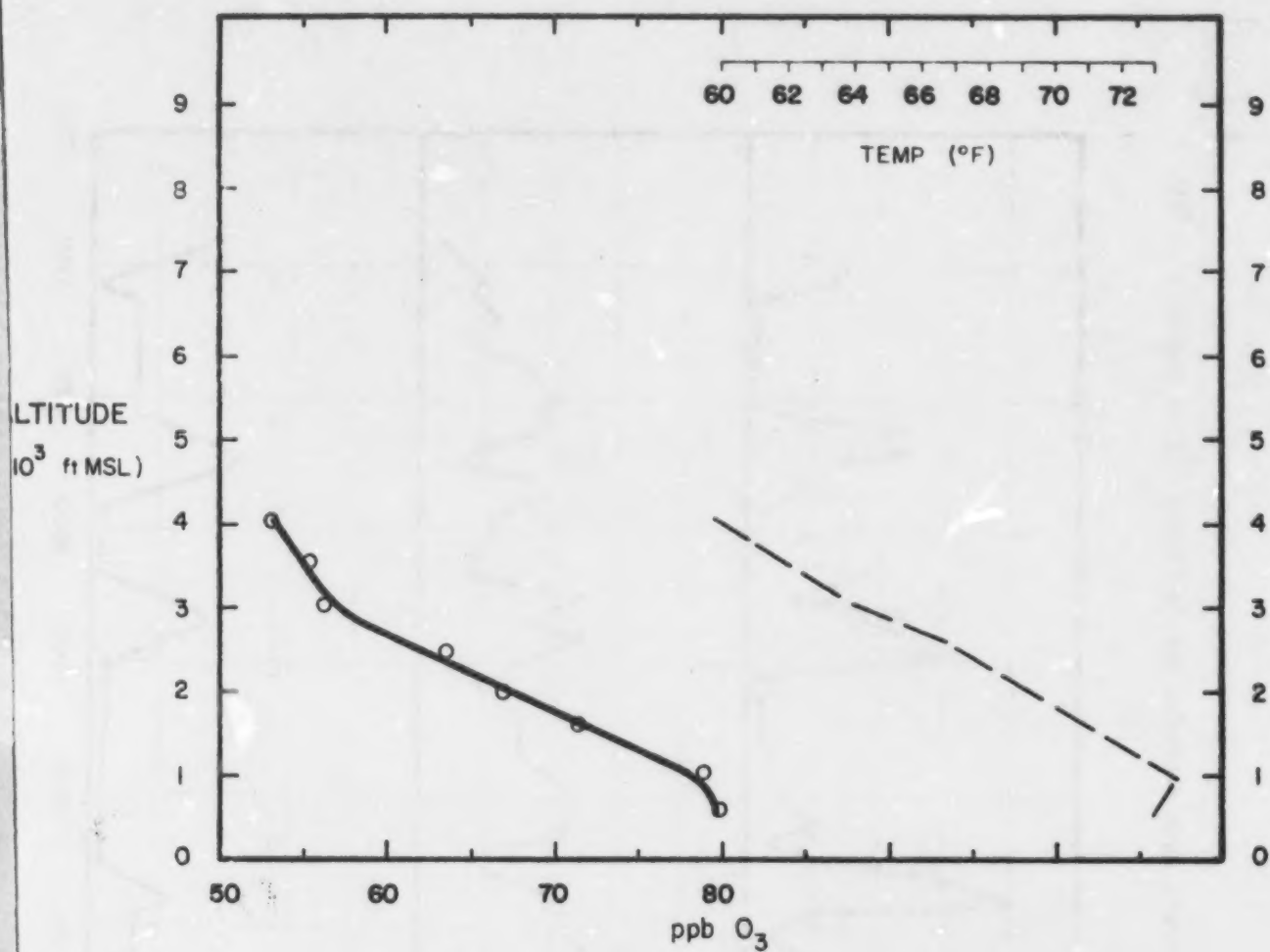
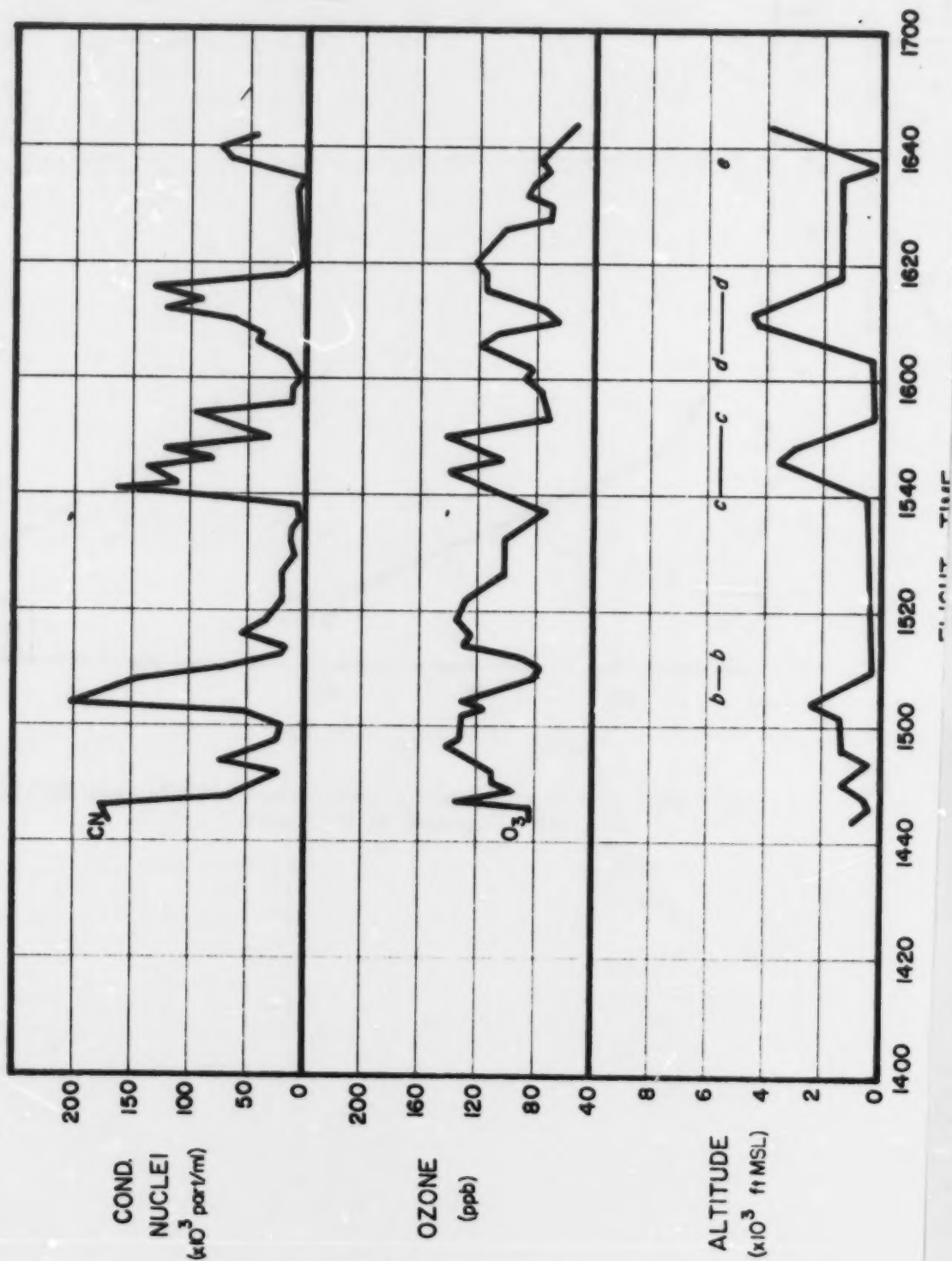


Figure 220. Vertical ozone and temperature profiles near Groton (point e) at 4:40 pm on August 21, 1975.

Figure 221. Plot of aircraft data recorded during flight #52 on August 21, 1975.



AIRCRAFT COLLECTED HYDROCARBON, HALOCARBON AND NO_x DATA

Light hydrocarbon, halocarbon and NO_x concentrations in aircraft collected samples are listed in this section. The data is reported on a daily basis beginning with the first flight--July 15. Reference should be made to the flight maps in the previous section for the exact sample collection point.

NOTES ON TABLES:

Light hydrocarbon concentrations are reported as $\mu\text{g}/\text{m}^3$.

* = less than $0.5 \mu\text{g}/\text{m}^3$ (0.8 ppb C).

Blank space = no data, either because the value obtained was questionable or the measurement was not made.

Times are Eastern Daylight Time.

TABLE 74. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE
AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT
ON JULY 15, 1975.

	A-1	A-2	A-3
Ethane	3.5	3.0	3.0
Ethylene	1.0	1.0	
Acetylene	*	*	*
Propane	1.5	1.5	1.5
Propene	*	*	1.0
i-Butane	*	*	1.0
n-Butane	*	1.0	4.0
i-Pentane	*	.5	1.5
n-Pentane	*	*	1.0
Total $\mu\text{g}/\text{m}^3$	6	7	13
CFC1 ₃ (ppt)	150	160	
CCl ₄ (ppt)	128	116	
NO _x (ppb)			

KEY (see flight map)

A-1 Over Long Island at 6500' (Point b - 4:04)
A-2 Over Long Island at 2300' (4:27)
A-3 Over Long Island at 1000' (4:37)

TABLE 75. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE
AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT
ON JULY 19, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8
Ethane	4.0	7.0	5.5	6.0	5.0	6.0	6.0	7.5
Ethylene	2.0		5.5					5.0
Acetylene	*	7.0	3.5	4.5	2.5	2.5	3.0	4.0
Propane	2.0	7.5	5.0	6.5	4.5	4.5	4.5	6.0
Propene	*	2.0	*	1.5	3.5	1.0	1.0	*
i-Butane	1.0	5.5	5.0	5.5	5.0	3.5	4.0	5.0
n-Butane	1.5	11.5	11.0	10.0	8.5	6.5	7.5	10.0
i-Pentane	1.5	9.5	8.0	9.5	6.5	6.5	7.5	9.0
n-Pentane	1.0	5.0	4.0	4.5	3.5	3.0	4.0	3.5
Total $\mu\text{g}/\text{m}^3$	13	55	48	48	39	34	38	50
CFC1 ₃ (ppt)	155		540					455
CCl ₄ (ppt)	128		140					128
NO _x (ppb)		21		18	15	19	20	

KEY (see flight map)

- A-1 Over Connecticut River at 7000' (point b - 1:55)
- A-2 Over Connecticut River at 500' (point b - 2:17)
- A-3 Along Coast at 500' (2:24)
- A-4 Along South Leg at 2500' (3:58)
- A-5 Along West Leg at 2500' (4:11)
- A-6 Along North Leg at 2500' (4:36)
- A-7 Along East Leg at 2500' (4:55)
- A-8 Over Groton at 1000' (5:05)

TABLE 76. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON JULY 19, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9
Ethane	3.5	3.5	4.5	4.0	4.0	4.5	4.0	4.0	3.0
Ethylene	1.0		3.0	6.0		1.0	1.5		4.5
Acetylene	1.0	1.5	2.0	2.5	2.0	*	1.0	1.0	*
Propane	2.0	3.5	4.5	2.0	3.5	2.0	2.5	1.5	1.5
Propene	.5	1.5	*	1.0	2.0	*	*	*	*
i-Butane	1.0	2.5	4.0	1.0	2.0	*	1.5	1.0	*
n-Butane	2.0	5.0	8.0	1.0	5.5	.5	3.0	2.0	1.0
i-Pentane	2.0	5.5	7.0	1.0	4.5	*	2.5	3.0	1.0
n-Pentane	1.5	2.5	3.5	1.0	2.0	*	2.0	1.0	.5
Total $\mu\text{g}/\text{m}^3$	15	26	37	20	26	8	18	14	12
CFC1 ₃ (ppt)	185		270			165	230		
CCl ₄ (ppt)	128		128			128	128		
NO _x (ppb)		15		11	20			15	

KEY (see flight map)

- A-1 Over Long Island at 1000' (point d - 11:16)
- A-2 Over Long Island Sound at 1000' (11:28)
- A-3 East of New Haven at 1500' (11:33)
- A-4 Over Kingston at 8000' (point g - 12:19)
- A-5 Over Kingston at 1500' (12:33)
- A-6 Northeast of Boston at 7500' (point d - 5:06)
- A-7 Northeast of Boston at 2000' (5:22)
- A-8 Over Groton at 2000' (6:31)
- A-9 Low Pass over Trumbull Airport (6:40)

TABLE 77. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE
AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT
ON JULY 20, 1975.

	A-1	A-2	A-3	A-4	A-5
Ethane	4.0	3.0	3.0	3.0	4.5
Ethylene		.5	2.5	2.0	1.0
Acetylene	*	*	*	*	*
Propane	2.0	1.5	1.5	1.5	2.5
Propene	*	*	*	*	*
i-Butane	.5	*	1.0	*	*
n-Butane	1.0	1.5	1.0	.5	1.0
i-Pentane	.5	1.5	1.0	*	.5
n-Pentane	*	*	*	*	1.0
Total $\mu\text{g}/\text{m}^3$	8	8	10	7	11
CFC1 ₃ (ppt)	160	180		150	155
CCl ₄ (ppt)	128	128		116	128
NO _x (ppb)			13		

KEY (see flight map)

- A-1 East of New Haven at 6000' (point b - 3:29)
- A-2 East of New Haven at 1000' (3:44)
- A-3 Over Groton at 5000' (4:20)
- A-4 South of Groton at 9000' (7:59)
- A-5 South of Groton at 2000' (8:25)

TABLE 78. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON JULY 21, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9
Ethane	4.0	3.0	4.0	4.0	5.5	3.0	5.0	5.0	5.0
Ethylene	2.0	4.0	*	1.5	4.0	2.5	3.0	1.0	2.0
Acetylene	*	*	*	1.5	4.5	1.0	1.5	1.0	4.0
Propane	2.0	2.5	1.0	2.5	7.0	3.0	3.0	3.0	4.5
Propene	*	*	*	*	1.0	1.0	1.0	*	*
i-Butane	1.0	1.0	*	1.5	8.0	1.5	2.0	2.0	4.5
n-Butane	1.0	1.5	*	3.0	13.5	3.0	4.5	4.0	9.0
i-Pentane	1.0	1.5	*	3.0	13.0	2.5	4.0	3.5	8.0
n-Pentane	*	1.0	*	1.5	6.5	1.5	2.5	2.0	4.0
Total $\mu\text{g}/\text{m}^3$	11	15	5	19	63	19	27	22	41
CFC1 ₃ (ppt)			150	215				230	435
CCl ₄ (ppt)			128	140				150	140
NO _x (ppb)	15	17			21	17	16		

KEY (see flight map)

- A-1 Over Putnam at 6000' (point b - 11:40)
- A-2 Over Putnam at 2000' (11:52)
- A-3 Northeast of Boston at 6000' (12:55)
- A-4 Northeast of Boston at 2000' (1:08)
- A-5 Over Long Island at 1000' (point b - 4:20)
- A-6 Over Long Island Sound at 1000' (4:25)
- A-7 Southeast of Hartford at 1500' (point d - 5:09)
- A-8 Over Atlantic Ocean at 1000' (point e - 5:46)
- A-9 Over Atlantic Ocean at 2000' (5:56)

TABLE 79. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE
AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT
ON JULY 22, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6	A-7
Ethane	3.5	3.5	3.0	4.0	4.0	5.0	3.5
Ethylene	2.0	*	5.5	.5	1.0	5.5	5.0
Acetylene	*	*	1.5	*	1.5	2.5	1.5
Propane	2.0	1.5	3.0	2.0	3.0	3.0	3.5
Propene	*	*	1.0	*	*	.5	2.0
i-Butane	1.0	*	3.0	*	1.5	3.0	1.5
n-Butane	1.5	1.0	6.0	1.5	3.0	5.5	3.0
i-Pentane	1.5	.5	5.5	1.5	3.0	5.0	2.5
n-Pentane	1.0	*	3.0	.5	1.5	2.5	1.5
Total $\mu\text{g}/\text{m}^3$	13	7	32	10	18	33	24
CFC1 ₃ (ppt)	185	155		145	195		
CCl ₄ (ppt)	140	128		128	128		
NO _x (ppb)							

KEY (see flight map)

- A-1 East of New Haven at 1000' (point d - 8:44)
- A-2 East of New Haven at 6500' (9:00)
- A-3 Over Groton at 1000' (9:13)
- A-4 East of New Haven at 7000' (point c - 1:37)
- A-5 East of New Haven at 1200' (1:54)
- A-6 Over Atlantic Ocean at 1000' (3:29)
- A-7 Over Long Island Sound at 1000' (3:45)

TABLE 80. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON JULY 23, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8
Ethane	3.5	3.0	3.0	4.0	5.5	4.5	3.5	7.0
Ethylene	5.0			2.0	2.5		1.5	2.5
Acetylene	*	1.5	.5	1.0	1.0	1.0	*	3.0
Propane	1.0	2.0	2.0	3.0	3.0	3.0	*	6.0
Propene	*	.5	.5	*	1.5	2.0	*	*
i-Butane	*	1.5	2.5	2.0	2.0	1.5	*	6.0
n-Butane	*	2.5	4.5	4.0	4.5	3.0	1.0	11.5
i-Pentane	*	2.5	8.5	4.5	5.0	3.0	*	10.0
n-Pentane	*	1.5	2.5	3.0	3.0	2.0	*	4.5
Total $\mu\text{g}/\text{m}^3$	10	15	24	24	28	20	6	51
CFC1 ₃ (ppt)				290			138	419
CCl ₄ (ppt)				116			116	243
NO _x (ppb)	16	16			17	19		

KEY (see flight map)

- A-1 At top of Putnam spiral - 8000' (point b - 8:40)
- A-2 At bottom of Putnam spiral - 2000' (point b - 8:57)
- A-3 At top of spiral NE of Boston (point 3 - 10:17)
- A-4 At bottom of spiral NE of Boston (point e - 10:35)
- A-5 At top of Putnam spiral - 5000' (point b - 3:38)
- A-6 At bottom of Putnam spiral - 500' (point b - 3:51)
- A-7 Eastern tip of Long Island - 3500' (point e - 4:42)
- A-8 Eastern tip of Long Island - 2500' (point e - 4:51)

TABLE 81. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE
AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT
ON JULY 24, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6	A-7
Ethane	5.5	7.0	3.5	4.5	4.0	4.0	5.0
Ethylene	3.0		8.5	8.0	3.0		6.0
Acetylene	2.0	5.5	*	*	1.0	1.0	1.5
Propane	3.5	6.5	2.0	2.5	2.5	4.5	4.5
Propene	*	1.5	*	1.0	*	5.0	1.0
i-Butane	*	7.5	*	*	*	1.0	1.5
n-Butane	6.0	18.0	1.5	1.5	2.5	2.5	3.0
i-Pentane	5.0	16.5	*	1.0	2.0	2.5	3.0
n-Pentane	2.0	9.5	1.0	1.0	1.0	2.0	2.0
Total $\mu\text{g}/\text{m}^3$	27	72	17	20	16	23	28
CFC1 ₃ (ppt)	221				166		
CCl ₄ (ppt)	127				127		
NO _x (ppb)		18	1	13			16

KEY (see flight map)

- A-1 At bottom of spiral NE of Putnam - 2000' (point b - 10:07)
- A-2 At 055° radial on Boston arc - 2000' (10:55)
- A-3 Over Groton at 4000' (12:20)
- A-4 At top of spiral NE of Putnam - 7000' (point b - 2:53)
- A-5 At bottom of spiral NE of Putnam - 1500' (point b - 3:11)
- A-6 At 150° radial on Boston arc - 1500' (3:36)
- A-7 At 360° radial on Boston arc - 1500' (4:09)

TABLE 82. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON JULY 26, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6	A-7
Ethane	4.0	4.0	4.0	4.5	4.0	4.0	4.0
Ethylene	3.5	3.5	*	4.5	1.0	3.5	2.0
Acetylene	*	*	*	1.0	*	1.0	*
Propane	1.5	1.5	1.5	2.0	1.5	2.5	2.0
Propene	*	*	1.0	*	*	1.5	*
i-Butane	*	*	*	1.5	*	1.0	*
n-Butane	.5	1.0	*	3.0	*	2.0	1.0
i-Pentane	*	1.0	*	3.0	1.0	2.0	1.0
n-Pentane	*	*	*	1.5	*	1.5	*
Total $\mu\text{g}/\text{m}^3$	10	11	7	21	8	19	10
CFC1 ₃ (ppt)			146	185	151		
CCl ₄ (ppt)			127	127	127		
NO _x (ppb)	10	9				6	7

KEY (see flight map)

- A-1 At top of spiral NE of Putnam - 5000' (point b - 10:18)
- A-2 At bottom of spiral NE of Putnam - 1500' (point b - 10:29)
- A-3 At top of spiral SE of Boston - 5500' (point d - 11:10)
- A-4 At 090° radial on Boston arc - 1500' (point e - 11:48)
- A-5 At top of spiral NE of Putnam - 7000' (point b - 3:38)
- A-6 At bottom of spiral NE of Putnam - 1500' (point b - 3:53)
- A-7 At top of spiral East of Boston - 7000' (point d - 4:44)

TABLE 83. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON JULY 27, 1975.

	A-1	A-2	A-3	A-4	A-5
Ethane	3.5	3.5	5.0	3.5	9.0
Ethylene	4.0	*	1.0	3.5	6.0
Acetylene	*	*	2.5	*	1.5
Propane	2.0	1.0	*	2.0	2.0
Propene	1.5	*	*	*	.5
i-Butane	*	*	1.0	*	2.5
n-Butane	1.0	*	*	*	1.5
i-Pentane	.5	*	1.5	1.0	2.0
n-Pentane	*	*	1.0	.5	1.0
Total $\mu\text{g}/\text{m}^3$	13	5	12	11	26
CFC1 ₃ (ppt)		138	148		
CCl ₄ (ppt)		116	104		
NO _x (ppb)	6				

KEY (see flight map)

- A-1 At top of spiral NE of Putnam - 5000' (point b - 9:41)
- A-2 At top of spiral West of Boston - 6000' (point d - 11:11)
- A-3 At bottom of spiral West of Boston - 1500' (point d - 11:27)
- A-4 At top of spiral NE of Putnam - 8000' (point b - 3:20)
- A-5 At 090° radial on Boston arc - 1500' (4:16)

TABLE 84. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE
AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT
ON JULY 28, 1975.

	A-1	A-2	A-3	A-4
Ethane	6.5	6.0	3.0	7.5
Ethylene	4.5	3.0	*	2.5
Acetylene	3.0	3.0	*	4.0
Propane	6.0	6.5	2.5	7.0
Propene	1.5	1.0	*	*
i-Butane	4.5	5.0	*	*
n-Butane	8.5	9.0	1.5	12.0
i-Pentane	8.5	7.5	1.0	10.0
n-Pentane	3.5	4.0	1.0	5.0
Total $\mu\text{g}/\text{m}^3$	47	45	9	48
CFC1 ₃ (ppt)			146	400
CCl ₄ (ppt)			127	185
NO _x (ppb)	11	11		

KEY (see flight map)

- A-1 Near Groton at 1500' (3:04)
- A-2 At bottom of spiral SE of Hartford - 1500' (point b - 3:34)
- A-3 At top of spiral over Atlantic Ocean - 5000' (point d - 4:36)
- A-4 Over Long Island at ~2000' (4:50)

TABLE 85. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE
AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT
ON JULY 29, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6	A-7
Ethane	4.5	3.0	4.5	3.0	3.5	4.0	4.0
Ethylene	3.0	2.0	3.5	1.5	*	1.5	2.5
Acetylene	1.0	*	3.0	2.0	*	1.0	*
Propane	3.0	2.0	2.0	1.0	1.5	2.0	1.5
Propene	1.5	*	1.0	*	*	*	1.0
i-Butane	1.0	*	2.5	1.0	*	1.5	.5
n-Butane	2.5	1.0	6.5	1.5	1.0	3.5	1.5
i-Pentane	2.5	1.0	7.5	1.5	1.5	2.0	1.0
n-Pentane	1.5	1.0	3.5	1.0	1.0	1.5	2.0
Total $\mu\text{g}/\text{m}^3$	2	10	34	13	9	17	14
CFC1 ₃ (ppt)			359		135	187	
CCl ₄ (ppt)			127		116	116	
NO _x (ppb)	10	11					9

KEY (see flight map)

- A-1 At bottom of spiral NE of Putnam - 1000' (point b - 10:06)
- A-2 At top of spiral SE of Boston - 6000' (point d - 10:47)
- A-3 At bottom of spiral SE of Boston - 1500' (point d - 11:00)
- A-4 At 310° radial on Boston arc - 1500' (11:35)
- A-5 At top of spiral SE of Boston - 7000' (point d - 3:59)
- A-6 At bottom of spiral SE of Boston - 500' (point d - 4:15)
- A-7 At 045° radial on Boston arc - 1500' (4:31)

TABLE 86. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE
AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT
ON JULY 30, 1975.

	A-1	A-2	A-3
Ethane	4.5	3.5	3.5
Ethylene	*	8	.5
Acetylene	*	*	*
Propane	2.0	16.5	1.5
Propene	*	*	*
i-Butane	.5	*	1.0
n-Butane	1.5	1.5	1.5
i-Pentane	1.0	1.0	1.5
n-Pentane	1.0	.5	*
Total $\mu\text{g}/\text{m}^3$	11	23	10
CFC1 ₃ (ppt)	132	142	147
CCl ₄ (ppt)	110	110	110
NO _x (ppb)			

KEY (see flight map)

- A-1 At top of spiral NE of Putnam - 6000' (point c - 9:40)
A-2 At bottom of spiral NE of Putnam - 1500' (point c - 9:50)
A-3 Southwest of Providence at 1500' (10:20)

TABLE 87. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE
AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT
ON AUGUST 2, 1975.

	A-1	A-2	A-3	A-4
Ethane	4.5	5.0	4.0	*
Ethylene	1.0	1.5	*	*
Acetylene	*	1.0	*	2.5
Propane	2.0	3.5	1.5	7.5
Propene	*	*	*	2.0
i-Butane	*	3.0	*	3.5
n-Butane	.5	4.5	1.0	8.5
i-Pentane	*	14.5	*	12.0
n-Pentane	*	1.5	*	5.5
Total $\mu\text{g}/\text{m}^3$	8	35	7	42
CFC1 ₃ (ppt)	138	175	143	
CCl ₄ (ppt)	106	116	116	
NO _x (ppb)				

KEY (see flight map)

- A-1 At top of spiral SW of Boston - 9000' (point d - 1:10)
- A-2 At bottom of spiral SW of Boston - 1500' (point d - 1:40)
- A-3 At top of spiral SW of Boston - 7000' (point c - 10:00)
- A-4 At bottom of spiral SW of Boston - 1500' (point c - 10:18)

TABLE 88. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON AUGUST 3, 1975.

	A-1	A-2	A-3	A-4
Ethane	4.5	4.5	4.0	6.5
Ethylene	9.5	5.0	*	4.0
Acetylene	1.5	1.0	*	3.5
Propane	4.5	2.5	1.5	5.0
Propene	5.0	1.5	*	.5
i-Butane	5.5	1.0	1.0	5.0
n-Butane	4.0	3.5	1.0	12.5
i-Pentane	4.5	4.0	1.0	12.5
n-Pentane	2.0	1.5	.5	6.5
Total $\mu\text{g}/\text{m}^3$	41	25	9	56
CFC1 ₃ (ppt)			147	534
CCl ₄ (ppt)			116	127
NO _x (ppb)	10			

KEY (see flight map)

- A-1 At bottom of spiral NE of Putnam - 1500' (point b - 10:55)
- A-2 At 080° radial on Boston arc - 1500' (11:40)
- A-3 At top of spiral West of Boston - 6000' (point d - 12:16)
- A-4 Southwest of Boston at 1500' (12:48)

TABLE 89. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE
AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT
ON AUGUST 5, 1975.

	A-1	A-2	A-3	A-4
Ethane	4.5	5.0	3.5	4.5
Ethylene			2.5	3.5
Acetylene	1.0	2.0	*	1.5
Propane	2.5	4.0	2.0	2.5
Propene	1.0	1.5	*	*
i-Butane	1.0	2.5	*	1.5
n-Butane	2.5	5.5	1.0	3.5
i-Pentane	6.0	5.5	*	3.0
n-Pentane	1.0	3.0	1.0	2.0
Total $\mu\text{g}/\text{m}^3$	20	29	10	22
CFCl ₃ (ppt)			135	213
CCl ₄ (ppt)			127	127
NO _x (ppb)				

KEY (see flight map)

- A-1 At top of spiral near Groton - 6000' (point b - 1:08)
- A-2 At bottom of spiral near Groton - 500' (point b - 1:26)
- A-3 At top of spiral near New Haven - 6000' (point c - 2:00)
- A-4 At bottom of spiral near New Haven - 500' (point c - 2:15)

TABLE 90. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON AUGUST 6, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6	A-7
Ethane	5.0	2.5	3.5	5.0	4.0	4.0	4.0
Ethylene	4.5	1.0	1.0	5.0	*	2.0	2.0
Acetylene	1.0	*	1.5	2.5	*	1.0	1.0
Propane	4.5	1.5	2.5	4.5	1.5	2.5	3.0
Propene	4.5	*	*	2.5	*	*	.5
i-Butane	2.0	*	1.5	3.5	*	1.0	1.0
n-Butane	4.5	1.5	3.5	7.5	1.0	2.5	2.0
i-Pentane	4.5	*	3.5	7.5	1.0	2.0	2.0
n-Pentane	2.5	1.0	1.5	4.5	*	1.0	1.0
Total $\mu\text{g}/\text{m}^3$	33	8	19	43	8	16	17
CFC1 ₃ (ppt)		140	140				
CCl ₄ (ppt)		127	127				
NO _x (ppb)	8					6	

KEY (see flight map)

- A-1 At 170° radial on inner Boston arc - 1500' (10:20)
- A-2 At 240° radial on outer Boston arc - 6000' (point e - 10:57)
- A-3 At 240° radial on outer Boston arc - 3300' (point e - 11:10)
- A-4 At 240° radial on outer Boston arc - 1500' (point e - 11:15)
- A-5 Over Connecticut-Rhode Island border - 5500' (2:25)
- A-6 Over Massachusetts-Rhode Island border - 3500' (2:48)
- A-7 Northeast of Boston at 4300' (3:47)

TABLE 91. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON AUGUST 9, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9
Ethane	6.0	5.0	4.0	3.5	3.0	4.0	4.0	5.5	3.5
Ethylene	11.0	5.0	2.0	*	1.5	2.5	2.0	2.5	*
Acetylene	1.5	1.5	2.5	*	1.0	1.5	2.0	3.0	*
Propane	3.5	4.0	3.0	2.5	2.0	2.5	3.0	3.0	1.5
Propene	2.0	1.5	*	*	*	1.0	1.5	-	*
i-Butane	2.0	2.0	2.5	*	1.5	1.5	2.5	4.0	8
n-Butane	4.5	5.0	5.5	1.0	3.5	3.5	5.0	8.5	*
i-Pentane	6.5	5.0	5.0	*	3.5	4.0	5.0	8.5	*
n-Pentane	3.0	3.0	3.0	*	1.5	2.0	3.0	4.0	*
Total $\mu\text{g}/\text{m}^3$	40	32	28	7	18	23	28	39	5
CFC1 ₃ (ppt)			220	122	173			349	122
CCl ₄ (ppt)			116	108	108			116	99
NO _x (ppb)									

KEY (see flight map)

- A-1 At bottom of spiral Southeast of New Haven - 1000' (point b - 12:03)
- A-2 At bottom of spiral over Long Island - 1000' (point c - 12:40)
- A-3 At bottom of spiral over Atlantic Ocean - 1000' (point d - 1:00)
- A-4 At top of spiral over Atlantic Ocean - 6000' (point d - 1:13)
- A-5 Over Long Island at 1000' (1:30)
- A-6 At bottom of spiral Southeast of New Haven - 1000' (point b - 4:03)
- A-7 At bottom of spiral over Long Island - 1000' (point c - 4:39)
- A-8 At bottom of spiral over Atlantic Ocean - 1000' (point d - 5:00)
- A-9 At top of spiral over Atlantic Ocean - 6000' (point d - 5:13)

TABLE 92. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON AUGUST 10, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6
Ethane	6.5	5.5	6.0	11.0	6.0	6.5
Ethylene	5.5	3.5	2.0	3.5	1.5	3.0
Acetylene	1.5	1.5	1.0	7.5	2.5	1.5
Propane	4.0	4.5	3.5	8.5	4.0	4.0
Propene	2.0	1.5	*	2.0		*
i-Butane	3.0	2.5	2.0	10.0	2.5	2.0
n-Butane	8.0	5.0	4.0	19.5	5.0	4.0
i-Pentane	6.0	4.0	3.5	18.0	5.0	4.0
n-Pentane	4.0	2.0	2.0	7.5	8.0	2.5
Total $\mu\text{g}/\text{m}^3$	41	30	24	88	35	28
CFC1 ₃ (ppt)				532	220	
CCl ₄ (ppt)				183	135	
NO _x (ppb)	11	8				

KEY (see flight map)

- A-1 At bottom of spiral over Atlantic Ocean - 1000' (point a - 11:53)
- A-2 At bottom of spiral near Putnam - 1500' (point d - 1:30)
- A-3 Over Norwich at 1500' (point c - 1:52)
- A-4 At bottom of spiral over Atlantic Ocean - 1500' (point a - 4:55)
- A-5 At bottom of spiral near Groton - 1500' (point c - 5:36)
- A-6 At bottom of spiral near Putnam - 1500' (point d - 6:25)

TABLE 93. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE
AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT
ON AUGUST 11, 1975.

	A-1	A-2	A-3	A-4
Ethane	5.0	7.5	4.5	5.5
Ethylene	3.0	4.5	*	1.5
Acetylene	1.5	2.5	1.0	1.5
Propane	4.5	5.5	2.5	4.0
Propene	1.5	1.5	*	*
i-Butane	2.0	3.5	1.5	2.5
n-Butane	4.5	8.0	*	4.0
i-Pentane	3.5	8.5	2.5	3.5
n-Pentane	2.5	4.0	1.5	2.0
Total $\mu\text{g}/\text{m}^3$	28	46	14	25
CFC1 ₃ (ppt)			156	190
CCl ₄ (ppt)			135	135
NO _x (ppb)	8	10		

KEY (see flight map)

- A-1 At bottom of spiral over Atlantic Ocean - 1000' (point a - 10:05)
A-2 At bottom of spiral over Long Island - 1000' (point b - 10:40)
A-3 At bottom of spiral near Putnam - 1500' (point d - 11:48)
A-4 At bottom of spiral near Groton - 1500' (point c - 12:03)

TABLE 94. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON AUGUST 12, 1975.

	A-1	A-2	A-3
Ethane	7.0	5.5	8.0
Ethylene	6.0	7.0	4.0
Acetylene	2.5	1.0	3.0
Propane	6.0	5.0	7.5
Propene	5.0	5.0	1.5
i-Butane	3.5	1.5	3.5
n-Butane	6.5	2.5	8.0
i-Pentane	7.5	3.0	9.0
n-Pentane	4.0	2.0	5.0
Total $\mu\text{g}/\text{m}^3$	48	33	50
CFC1 ₃ (ppt)			
CCl ₄ (ppt)			
NO _x (ppb)	16	10	

KEY (see flight map)

- A-1 At 190° radial on Boston arc - 1500' (11:28)
A-2 Near top of spiral over Atlantic Ocean - 6000' (point b - 3:52)
A-3 At bottom of spiral over Atlantic Ocean - 500' (point b - 4:03)

TABLE 95. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON AUGUST 13, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8
Ethane	2.5	4.5	5.5	5.0	3.5	5.5	4.5	5.0
Ethylene	*	*	4.0	2.0	*	3.0	6.0	1.0
Acetylene	1.0	1.0	1.5	1.0	*	1.5	1.5	1.5
Propane	1.5	2.5	6.0	3.0	1.5	4.5	2.5	3.0
Propene	1.0	*	1.0	.5	1.0	1.5	2.0	*
i-Butane	1.0	1.0	2.5	1.5	*	2.0	1.5	1.5
n-Butane	1.0	2.0	6.0	2.5	*	4.5	2.5	3.0
i-Pentane	*	1.5	1.5	3.0	*	9.5	5.0	3.0
n-Pentane	1.0	*	9.0	1.5	*	2.5	2.0	1.5
Total $\mu\text{g}/\text{m}^3$	9	13	37	20	6	35	28	20
CFC1 ₃ (ppt)	130	144			133			248
CCl ₄ (ppt)	125	135			135			154
NO _x (ppb)				9				

KEY (see flight map)

- A-1 At top of spiral Southwest of Danbury - 6000' (point b - 9:53)
- A-2 At bottom of spiral Southwest of Danbury - 1500' (point b - 10:10)
- A-3 At top of spiral near Hartford - 7000' (point d - 11:05)
- A-4 At bottom of spiral near Hartford - 1500' (point d - 11:21)
- A-5 At top of spiral near Norwich - 8000' (point b - 3:57)
- A-6 At bottom of spiral near Norwich - 1500' (point b - 4:17)
- A-7 At top of spiral over Martha's Vineyard - 6000' (point g - 5:20)
- A-8 At bottom of spiral over Martha's Vineyard - 1000' (point g - 5:40)

TABLE 96. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON AUGUST 14, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6
Ethane	6.5	5.0	4.0	5.0	3.5	5.5
Ethylene	5.5	3.0	*	1.5	4.0	3.5
Acetylene	1.5	1.0	*	2.0	*	1.0
Propane	4.0	6.0	2.0	5.5	2.5	4.5
Propene	1.5	1.0	*	*	1.0	1.5
i-Butane	2.0	2.0	*	2.5	1.5	2.5
n-Butane	4.0	4.0	*	5.5	3.0	5.0
i-Pentane	4.5	3.0	*	4.5	3.5	5.5
n-Pentane	2.0	1.5	1.0	3.0	2.0	3.5
Total $\mu\text{g}/\text{m}^3$	32	27	7	30	21	33
CFC1 ₃ (ppt)			133	191		
CCl ₄ (ppt)			124	124		
NO _x (ppb)						

KEY (see flight map)

- A-1 At top of spiral Southwest of Danbury - 9000' (point b - 10:32)
- A-2 At bottom of spiral Southwest of Danbury - 1500' (point b - 10:51)
- A-3 At top of spiral near Hartford - 9000' (point d - 11:45)
- A-4 At bottom of spiral near Hartford - 1500' (point d - 12:06)
- A-5 At top of spiral near Norwich - 9000' (point b - 4:15)
- A-6 At bottom of spiral near Norwich - 1500' (point b - 4:38)

TABLE 97. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON AUGUST 15, 1975.

	A-1	A-2	A-3	A-4
Ethane	3.5	4.0	3.0	3.5
Ethylene	*	*	*	1.5
Acetylene	*	*	*	1.5
Propane	1.5	2.0	1.5	2.5
Propene	*	2.5	*	*
i-Butane	*	*	*	1.5
n-Butane	*	*	1.0	4.0
i-Pentane	.5	*	1.0	3.5
n-Pentane	*	*	*	2.0
Total $\mu\text{g}/\text{m}^3$	6	9	7	20
CFC1 ₃ (ppt)	133	137	133	205
CCl ₄ (ppt)	116	124	124	134
NO _x (ppb)				

KEY (see flight map)

- A-1 At bottom of spiral over Atlantic Ocean - 1500' (point b - 10:42)
- A-2 At top of spiral over Atlantic Ocean - 7000' (point b - 11:05)
- A-3 Over Atlantic Ocean at 1000' (point c - 11:58)
- A-4 Over Atlantic Ocean at 1000' (point d - 12:43)

TABLE 98. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON AUGUST 18, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6
Ethane	4.0	5.0	4.0	6.0	3.0	5.0
Ethylene	*	1.5	*	1.5	*	1.0
Acetylene	*	2.0	1.0	2.0	*	1.0
Propane	2.0	3.5	2.5	3.5	1.5	2.5
Propene	*	*	*	*	*	*
i-Butane	1.0	3.5	1.0	*	1.0	1.5
n-Butane	1.0	*	2.0	4.5	*	3.0
i-Pentane	1.0	3.5	1.5	4.0	*	2.5
n-Pentane	*	2.0	1.0	2.5	*	1.5
Total $\mu\text{g}/\text{m}^3$	9	21	13	24	6	18
CFC1 ₃ (ppt)	133	207	168	200	137	165
CCl ₄ (ppt)	135	145	135	145	135	135
NO _x (ppb)						

KEY (see flight map)

- A-1 At top of spiral Southwest of Danbury - 10,000' (point b - 11:27)
- A-2 At bottom of spiral Southwest of Danbury - 2000' (point b - 11:49)
- A-3 At top of spiral near Hartford - 8000' (point d - 12:43)
- A-4 At bottom of spiral near Hartford - 1500' (point d - 1:00)
- A-5 At top of spiral near Groton - 7000' (point c - 8:04)
- A-6 At 3500' in spiral near Groton (point c - 8:16)

TABLE 99. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT ON AUGUST 19, 1975.

	A-1	A-2	A-3	A-4	A-5	A-6	A-7	A-8	A-9	A-10	A-11
Ethane	3.0	3.5	4.5	4.5	4.0	4.0	2.5	4.0	3.0	5.5	3.0
Ethylene	1.0	1.0	2.0	3.0	2.5	1.5	*	1.5	4.0	4.0	1.0
Acetylene	*	*	2.5	1.0	1.5	1.0	*	1.0	2.5	3.5	1.0
Propane	2.0	2.0	2.5	3.0	2.5	2.0	1.5	2.5	3.0	3.5	1.5
Propene	*	*	*	1.0	1.0	*	*	*	1.5	2.5	*
i-Butane	1.5	1.0	3.0	1.0	1.0	1.0	*	2.0	7.0	4.5	1.0
n-Butane	*	2.0	6.5	2.0	2.5	2.0	1.5	3.5	8.0	9.5	2.5
i-Pentane	2.0	1.5	6.0	2.5	2.5	2.5	1.0	3.0	9.0	11.0	3.0
n-Pentane	1.0	1.0	2.5	1.5	2.0	1.5	*	1.5	4.5	6.0	1.0
Total $\mu\text{g}/\text{m}^3$	11	12	30	20	20	16	7	19	43	50	14
CFC1 ₃ (ppt)	141	138	224			144	134	154	269	285	166
CCl ₄ (ppt)	124	124	199			116	116	141	149	141	116
NO _x (ppb)											

KEY (see flight map)

- A-1 At bottom of spiral Northeast of Providence - 2000' (point c - 11:29)
- A-2 At bottom of spiral Southeast of Boston - 1500' (point d - 12:14)
- A-3 Over Ocean South of Martha's Vineyard - 500' (12:36)
- A-4 Northeast of Providence at 1500' (point c - 3:35)
- A-5 At bottom of Cape Cod spiral - 1000' (point d - 4:11)
- A-6 Over Long Island at 2000' (power plant plume - 7:40)
- A-7 Over Long Island at 3500' (8:39)
- A-8 Southeast of New York City at 500' (9:23)
- A-9 Southeast of New York City at 2000' (9:29)
- A-10 Southeast of New York City at 3000' (9:33)
- A-11 Southeast of New York City at 4500' (9:39)

TABLE 100. LIGHT HYDROCARBON, FLUOROCARBON-11, CARBON TETRACHLORIDE
AND NO_x CONCENTRATIONS IN SAMPLES COLLECTED BY AIRCRAFT
ON AUGUST 20, 1975.

	A-1	A-2	A-3	A-4	A-5
Ethane	3.0	4.0	3.5	5.0	1.5
Ethylene	1.5	1.5	1.5	3.5	2.5
Acetylene	2.0	1.0	*	*	1.5
Propane	3.5	2.0	1.5	3.0	3.0
Propene	*	1.0	*	3.0	1.5
i-Butane	4.5	1.0	*	1.0	1.5
n-Butane	8.0	1.0	1.0	1.5	2.5
i-Pentane	7.0	1.5	1.0	2.0	4.0
n-Pentane	4.5	1.0	1.0	1.0	2.5
Total $\mu\text{g}/\text{m}^3$	34	14	10	20	21
CFC1 ₃ (ppt)	192				
CCl ₄ (ppt)	124				
NO _x (ppb)					

KEY (see flight map)

- A-1 At 130° radial on Boston arc - 1500' (12:51)
- A-2 At top of spiral Northwest of Boston - 7500' (point b - 1:38)
- A-3 At bottom of spiral Northwest of Boston - 1500' (point b - 1:52)
- A-4 At top of spiral North of Martha's Vineyard - 7500' (point d - 5:50)
- A-5 At bottom of spiral North of Martha's Vineyard - 1000' (point d - 6:12)